



**HAL**  
open science

## Animals in Graeco-Egyptian Magical Practice

Korshi Dosoo, Thomas Galoppin

► **To cite this version:**

Korshi Dosoo, Thomas Galoppin. Animals in Graeco-Egyptian Magical Practice. *Magikon zōon: Animal et magie dans l'Antiquité et au Moyen Âge*, Institut de recherche et d'histoire des textes, pp.203-256, 2022, 10.4000/books.irht.704 . halshs-03913142

**HAL Id: halshs-03913142**

**<https://shs.hal.science/halshs-03913142>**

Submitted on 26 Dec 2022

**HAL** is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

## ANIMALS IN GRAECO-EGYPTIAN MAGICAL PRACTICE\*

Korshi DOSOO

*Julius Maximilian University Würzburg*

Thomas GALOPPIN

*ERC MAP, Université Toulouse – Jean Jaurès / PLH-ERASME*

The magical texts which survive from Roman Egypt are filled with animals – from gods invoked in chimerical forms to birds used in bloody sacrifices and beasts whose bodies are stripped down to furnish ingredients. This discussion will offer an overview of these creatures, drawing primarily upon the corpus known (somewhat misleadingly) as the “Greek Magical Papyri”, and attempt to draw out some of the recurring themes and cultural beliefs which underlie these rituals.

The “Greek Magical Papyri” is the name given to a corpus of texts collected by Karl Preisendanz in the early decades of the 20th century.<sup>1</sup> Though written in Greek, they were found in Egypt alongside material in other languages, primarily the two latest forms of the Egyptian language, Demotic and Coptic.<sup>2</sup> This, and the fact that

---

\* Some of the research which contributed to this work was carried out on behalf of L. Watson of Sydney University, whom the authors would like to thank for his permission to publish this independent study.

1. For these texts, see K. Preisendanz and A. Henrichs, *Papyri Graecae Magicae. Die griechischen Zauberpapyri*, Stuttgart, Teubner, 1973-1974, 2 vols. (*PGM*). Many additional texts may be found in R. W. Daniel and F. Maltomini, *Supplementum Magicum*, Opladen, Westdeutscher Verlag, 1989-1991, 2 vols. (*SM*). English-language translations of the majority of these texts may be found in H. D. Betz (ed.), *The Greek Magical Papyri in Translation*, Chicago, University of Chicago Press, 1992 (original edition 1986). Useful overviews of the corpus appear in W. M. Brashear, “The Greek Magical Papyri: An Introduction and Survey; Annotated Bibliography (1928-1994)”, in W. Haase (ed.), *Aufstieg und Niedergang der römischen Welt*, vol. 2.18.5, Berlin, Walter de Gruyter & Co., 1995, p. 3380-3684; J. Dieleman, “The Greco-Egyptian Magical Papyri”, in D. Frankfurter (ed.), *Guide to the Study of Ancient Magic*, Leiden, Brill, 2019, p. 283-321.

2. Four papyri among the corpus of Greek magical papyri also contain texts in Demotic (*PGM/PDM* XII, XIV, LXI and Suppl.), while another fragmentary text from the second century (P.BM. EA 10808) contains both Traditional Egyptian transliterated into an Old Coptic writing system, and some Demotic material (J. Dieleman, “Ein spätägyptisches magisches Handbuch. Eine neue PDM oder PGM?”, in F. Hoffman and H. J. Thissen [ed.], *Res severa verum gaudium*.

they date primarily to the 1st through 5<sup>th</sup> centuries CE, means that they are removed temporally, geographically, and even culturally from the classical Greece that might be conjured up by the name “Greek Magical Papyri”. These documents are thus Graeco-Egyptian rather than purely Greek, and furthermore, alongside the ubiquitous papyri similar texts have been found in Egypt written on ostraca, wooden tablets, parchment, and even metal plates, although these have been found in much smaller numbers than elsewhere in the Roman world, where curse-tablets on lead, for example, have been found in their hundreds.<sup>3</sup>

The Graeco-Egyptian magical material is eminently practical; while many of the manuscripts, among them the largest scrolls and codices, are handbooks providing instructions for carrying out rituals, the texts they contain are very rarely detailed treatises, and contain no extended discussions of theoretical principles. Texts of a more organised sort – such as the *Picatrix*<sup>4</sup> – are known from later periods, and the magical papyri probably existed alongside and in relationship to similar material (the *Cyranides* is one surviving example),<sup>5</sup> but the texts we find in the manuscripts from Roman Egypt seem more like the handbooks of working practitioners or interested researchers, with material, consisting almost entirely of brief ritual instructions, copied and recopied from apparently diverse sources, sometimes alongside marginal annotations,<sup>6</sup> and with varying degrees of internal organisation. Alongside these handbooks

---

*Festschrift für Karl-Theodor Zauzich zum 65. Geburtstag an 8. Juni 2004*, Leuven, Peeters, 2004, p. 121-128); we should also note the existence of a significant quantity of Demotic magical material which remains unpublished. Texts written in Coptic or Old Coptic appear alongside Greek material in *PGM* III, IV, CXXIII, and Aramaic fragments are associated with *PGM* CXXIII and *PGM* CXXIV, in an assemblage which also included a Coptic miniature codex (see E. Bresciani, S. Pernigotti, F. Maltomini and P. Marrassini, “Nuovi papiri magici in copto, greco e aramaico”, *Studi classici e orientali*, vol. 29, 1973, p. 16-130); for a fuller discussion of animals in Coptic material, see K. Dosoo, “Suffering Doe and Sleeping Serpent: Animals in Christian Magical Texts from Late Roman and Early Islamic Egypt”, in this volume.

3. W. M. Brashear (“The Greek Magical Papyri”, art. cit., p. 3443-3444) lists 18 metal tablets found in Egypt. For ostraca, see R. Martín Hernández and S. Torallas Tovar, “The Use of the Ostrakon in Magical Practice in Late Antique Egypt: Magical Handbooks vs. Material Evidence”, *Studi e materiali di storia delle religioni*, vol. 80, 2014, p. 781-88, who list seven magical texts on ostraca from the 1st through 5th centuries (p. 795-797, n<sup>os</sup> 1, 2, 3, 4, 12; p. 797 n<sup>os</sup> 1, 2). *PGM* T1-3 and *Suppl. Mag.* 52 are wooden tablets. Parchment is relatively rare for this period, but P. Ant. III 121 may represent an early (III-IV CE) example, although its magical nature is uncertain.

4. For the edition of the Arabic text, see H. Ritter, *Pseudo-Maḡrūrī. Das Ziel des Weisen*, Leipzig, Teubner, 1933. For the Latin translation, see D. Pingree, *Picatrix. The Latin version of the Ghāyat Al-Ḥakīm*, London, Warburg Institute, 1986. An English language translation (albeit with numerous problems) of the Arabic text may be found in H. Atallah (transl.), G. Holmquest (co-transl. vol. 2) and W. Kiesel (ed.), *Picatrix. Ghayat al-Hakim: The Goal of the Wise*, Seattle, Ouroboros Press, 2002-2008, 2 vols. For a French language translation, see B. Bakhouché, F. Fauquier and B. Pérez-Jean, *Picatrix. Un traité de magie médiéval*, Turnhout, Brepols, 2003, although this edition too has some problems: see M. Lejbowicz, “Béatrice Bakhouché, Frédéric Fauquier et Brigitte Pérez-Jean (ed.), *Picatrix. Un traité de magie médiéval*”, *Cahiers de recherches médiévales et humanistes*, 2003, online at [crm.revues.org/244](http://crm.revues.org/244) (uploaded 11 July 2008, last consulted 27 June 2017).

5. D. Kaimakis, *Die Kyraniden*, Meisenhem am Glan, Anton Hain, 1976.

6. The most commonly consulted editions generally either leave out the annotations, or place them within the footnotes, so that they are often ignored. Annotations can be found, for example, in *PGM* I (by l. 249), *PGM* II (l. 22, 45-46, 64a, 81, 88-93), *PGM* V (l. 95-98, 151, 334), and

there are numerous applied texts, representing examples of magical artefacts produced in rituals, and embodying the power to heal, curse, or compel love, in the same way as the metal amulets and curse tablets we find elsewhere in the ancient Mediterranean.<sup>7</sup>

The fact that most of these manuscripts were uncovered in illicit excavations, and then sold via private dealers, means that we rarely have any clear idea of their context of production or use. One of the largest collections of magical papyri from Roman Egypt – a group of ten texts known as the Theban Magical Library<sup>8</sup> – contains material written in Demotic and Old Coptic, two scripts whose knowledge seems to have been limited to the hereditary priesthood of the Egyptian temples.<sup>9</sup> This, alongside the many references to Egyptian theological concepts, and the use of ritual practices derived from earlier Pharaonic magic, suggests that many of the practitioners were Egyptian priests.<sup>10</sup> In the 3rd and 4th centuries the traditional temples seem to have collapsed due to a lack of administrative and economic support, and this may have led certain priests to re-brand themselves as “magicians”, drawing upon their ritual expertise and the reputation of alien wisdom and marvellous powers that Greek-speakers had long attributed to the Egyptian priesthood.<sup>11</sup>

---

*PGM XIII* (l. 130, 345, 391, 506-507). For discussions of the format and structure of handbooks see L. R. Lidonni, “Compositional Patterns in *PGM IV* (= P. Bibl. Nat. Suppl. gr. n° 574)”, *Bulletin of the American Society of Papyrologists*, vol. 40, 2003, p. 141-78; J. Dieleman, *Priests, Tongues, and Rites: The London-Leiden Magical Manuscripts and Translation in Egyptian Ritual (100-300 CE)*, Leiden, Brill, 2005; R. Martín Hernández, “A Coherent Division of a Magical Handbook. Using Lectional Signs in P. Lond. I 121 (*PGM VII*)”, *Segno e testo*, vol. 13, 2015, p. 147-164.

7. For an overview of the different supports used for writing “magical” texts, see G. Bevilacqua *et al.*, *Scrittura e magia. Un repertorio di oggetti iscritti della magia greco-romana*, Rome, Edizioni Quasar, 2010, p. 21-65.

8. For an introduction and bibliography see K. Dosoo, “A History of the Theban Magical Library”, *Bulletin of the American Society of Papyrologists*, vol. 53, 2016, p. 251-274.

9. For discussions of the development of Coptic scripts and their relationships to magical material, see E. O. D. Love, *Code-Switching with the Gods*, Berlin/Boston, De Gruyter, 2016; J. F. Quack, “How the Coptic Script Came About”, in E. Grossman, P. Dils, T. S. Richter, and W. Schenkel (eds.), *Greek Influence on Egyptian-Coptic: Contact-Induced Change in an Ancient African Language*, Hamburg, Widmaier Verlag, 2017, p. 27-96.

10. The idea that the owners of the texts of the Theban Magical Library might have been Egyptian priests seems to have been first suggested by C. W. Goodwin, *Fragment of a Graeco-Egyptian Work upon Magic*, Cambridge, Deighton, MacMillan & Co., 1852, p. v-vi, who proposed that the owner of *PGM V* might have been a priest of Isis or Sarapis; prior to this the material was generally associated with “gnostics”. For the argument that priests were the principal users of magical papyri in Roman Egypt, see D. Frankfurter, “Ritual Expertise in Roman Egypt and the Problem of the Category ‘Magician’”, in P. Schäfer and H. G. Kippenberg (ed.), *Envisioning Magic. A Princeton Seminar and Symposium*, Leiden, Brill, 1997, p. 115-135; cf. K. Dosoo and S. Torallas Tovar, “The Anatomy of the Magical Archive”, in C. A. Faraone and S. Torallas Tovar (ed.), *The Graeco-Egyptian Magical Formularies: Libraries, Books and Recipes* (forthcoming) for a fuller discussion.

11. For the collapse of the Egyptian temples, see R. S. Bagnall, “Combat ou vide: Christianisme et paganisme dans l’Égypte romaine tardive”, *Ktéma*, vol. 13, 1988, p. 285-96; J.-L. Fournet, “Temples in Late Antique Egypt: Cultic Heritage between Ideology, Pragmatism, and Artistic Recycling”, in P. Buzi (ed.), *Coptic Literature in Context (4th-13th cent.): Cultural Landscape, Literary Production, and Manuscript Archaeology. Proceedings of the Third Conference of the ERC Project “Tracking Papyrus and Parchment Paths: An Archaeological Atlas of Coptic Literature. Literary Texts in their Geographical Context (‘PATHs’)”*, Rome, Edizioni Quasar, 2020, p. 29-50;

But while it is certain that the Greek magical papyri draw upon a rich tradition of Egyptian magico-religious practice, it is unclear if we can trace the entire corpus to the Egyptian priesthood. With the exception of the Theban Library, there is little clear evidence linking priests to magical material, or suggesting that this group held a monopoly on magical practice in Roman Egypt,<sup>12</sup> and no material directly comparable to the magical manuscripts has to date been published from surviving temple libraries.<sup>13</sup> The material preserved by Egypt's proverbial "dry sands" is unparalleled, so that direct comparison with material from elsewhere is impossible. Yet when we do compare Egyptian magical texts to contemporary artefacts from elsewhere, such as curse tablets and inscribed gems, we see both differences and considerable similarities; much of the imagery, ritual praxis, and even the "*voces magicae*" or "magic words", seem to have been common throughout the ancient Mediterranean.<sup>14</sup> It is likely that some practices – notably the use of matronyms to identify individuals in spells<sup>15</sup> – originated in

---

M. Escolano-Poveda, *The Egyptian Priests of the Graeco-Roman Period. An Analysis on the Basis of the Egyptian and Graeco-Roman Literary and Paraliterary Sources*, Wiesbaden, Harrassowitz, 2020, p. 283-294. For the hypothetical connection between this collapse and the privatisation of priestly ritual see D. Frankfurter, *Religion in Roman Egypt: Assimilation and Resistance*, Princeton, Princeton University Press, 1998, esp. p. 224-237, but note the critiques in G. Bohak, "Review of *Religion in Roman Egypt: Assimilation and Resistance*, by D. Frankfurter", *The Journal of Religion*, vol. 80.3, 2000, p. 546-548, and S. I. Johnston, "Review of *Religion in Roman Egypt: Assimilation and Resistance*, by David Frankfurter", *Journal of Biblical Literature*, vol. 120.2, 2001, p. 368-370; cf. K. Dosoo and S. Torallas Tovar, "Anatomy of the Magical Archive", art. cit.; M. Escolano-Poveda, *Egyptian Priests*, op. cit., p. 295-326.

12. For literary evidence of magicians elsewhere in the Roman empire see M. W. Dickie, *Magic and Magicians in the Greco-Roman World*, London, Routledge, 2001.

13. For the evidence of the Tebtunis temple library, the best-known archaeological example, see K. Ryholt, "On the Contents and Nature of the Tebtunis Temple Library. A Status Report", in S. Lippert and M. Schentuleit (ed.), *Tebtynis und Soknopaiou Nesos Leben im römerzeitlichen Fajum. Akten des Internationalen Symposiums vom 11. bis 13. Dezember 2003 in Sommerhausen bei Würzburg*, Wiesbaden, Harrassowitz Verlag, 2005, p. 141-163; A. von Lieven, "Religiöse Texte aus der Tempelbibliothek von Tebtynis-Gattungen und Funktionen", in the same volume, p. 57-70. It is likely that future excavations may see some magical texts found in late Egyptian temple libraries, but their relative absence in comparison to, say, astrological texts, is surely an argument against assuming a temple origin for all, or even most, of the published magical texts; cf. K. Dosoo and S. Torallas Tovar, "Anatomy of the Magical Archive", art. cit.

14. Prominent among these is the formula which begins *Maskelli Maskellō*, which can be found in, for example, *PDM* xiv.1056-1062 (Demotic, from Thebes, Egypt), *PGM* XXXVI.341-346 (Greek, from Fayum, Egypt), A. Audollent, *Defixionum Tabellae: Quotquot innotuerunt tam in Graecis orientis quam in totius occidentis partibus praeter Atticas in corpore inscriptionum Atticarum editas*, Paris, Fontemoing, 1904, n° 242.46-48 (Greek, Carthage), Univ. Penn. Mus. 29-108-60, reverse, fr. 1 l. 5-9 (Beisan, Palestine; H. C. Youtie and C. Bonner, "Two Curse Tablets from Beisan", *Transactions and Proceedings of the American Philological Association*, vol. 68, 1937, p. 43-77, 128). Cf. the  $\omega\epsilon\rho\beta\epsilon\theta$  *logos*, attested in at least 41 texts from Egypt, Carthage, Athens, Kos, and Beth-Shean (Israel), for which see R. Martín Hernández, "More than a *Logos*. The  $\omega\epsilon\rho\beta\eta\theta$  *Logos* in Context", in C. Sánchez Natalias (ed.), *Litterae Magicae. Studies in Honour of Roger Tomlin*, Zaragoza, Libros Pórtico, 2019, p. 187-262. On the *voces magicae* or *nomina barbara*, see M. Tardieu, A. Van den Kerchove and M. Zago (ed.), *Noms barbares, vol. I: Formes et contextes d'une pratique magique*, Turnhout, Brepols, 2013.

15. This is true at least for the formula "NN, whom NN woman bore", which appears in Greek around the I or II cent. CE; see J. B. Curbera, "Maternal lineage in Greek magical texts", in

Egypt and diffused outwards, while others – such as the use of binding spells,<sup>16</sup> and indeed the use of the Greek language and its poetic forms – were adopted by individuals living in Egypt. Even the most striking references to the Egyptian religious tradition may not be a perfect indicator of cultural origin.<sup>17</sup> Shortly after the conquest of Alexander the Great created a Greek-speaking ruling class in Egypt, Egyptian authors, often of priestly origin, began translating aspects of their culture into Greek in texts which were not only Greek in language, but which also drew upon Greek philosophical and religious concepts as they engaged with other writers. The most famous of these authors were Manetho and Chaeremon, and although none of their works survive in full, the fragments cited by other authors suggest that among the subjects they discussed were practices of the type we find in surviving magical manuscripts, which would thus have been accessible to any individual literate in Greek,<sup>18</sup> and the

---

D. R. Jordan, H. Montgomery, and E. Thomassen (ed.), *The World of Ancient Magic*, Bergen, The Norwegian Institute at Athens, 1999, p. 195-203.

16. C. A. Faraone, “The Ethnic Origins of a Roman-Era Philtrokatadesmos (*PGM* IV 296-434)”, in M. Meyer and P. Mirecki (ed.), *Magic and Ritual in the Ancient World*, Leiden, Brill, 2001, p. 319-343.

17. On the origin of different aspects of the magical papyri in different ritual traditions, see R. K. Ritner, “Egyptian Magical Practice under the Roman Empire: the Demotic Spells and their Religious Context”, in W. Haase (ed.), *Aufstieg und Niedergang der römischen Welt*, vol. 2.18.5, Berlin, Walter de Gruyter & Co., 1995, p. 3333-3379; C. A. Faraone, “Handbooks and Anthologies: The Collection of Greek and Egyptian Incantations in Late Hellenistic Egypt”, *Archiv für Religionsgeschichte*, vol. 2.2, 2000, p. 195-213; J. F. Quack, “From Ritual to Magic: Ancient Egyptian Precursors of the *Charitesion* and their Social Setting”, in G. Bohak, Y. Harari, and S. Shaked (ed.), *Continuity and Innovation in the Magical Tradition*, Leiden, Brill, 2011, p. 43-84; G. Bohak, “The Diffusion of the Greco-Egyptian Magical Tradition in Late Antiquity”, in I. Rutherford (ed.), *Greco-Egyptian Interactions: Literature, Translation, and Culture, 500 BCE-300 CE*, Oxford, Oxford University Press, 2016, p. 357-381; for a helpful discussion of cultural interaction in the magic of a slightly later period, see R. Boustán and J. E. Sanzo, “Christian Magicians, Jewish Magical Idioms, and the Shared Magical Culture of Late Antiquity”, *Harvard Theological Review*, vol. 110.2, 2017, p. 217-240.

18. The most explicit of these is found in Chaeremon fr. 4 (drawn from Porphyry, *Epistula ad Anebonem* II 8-9), which attributes to him a discussion of the use of threats against the solar barque and the body of Osiris as being compulsive (βαστικώτατα) in their effects upon the gods; this is a common theme in the Greek and Demotic magical papyri, as well as older Egyptian magic; see P. W. van der Horst, *Chaeremon: Egyptian Priest and Stoic Philosopher*, Leiden, Brill, 1984, p. 12-13 for text and translation, and p. 53-54 for a discussion of the fragment; for a discussion of threats against the gods in Egyptian magic, see S. Sauneron, “Aspects et sort d’un thème magique égyptien: les menaces incluant les dieux”, *Bulletin de la Société française d’Égyptologie*, vol. 8, 1951, p. 11-21. Manetho seems to have provided a recipe for the Egyptian incense called in Greek κῦφι (< Eg. *kʿp.t*; fr. 87, from Plutarch, *De Iside et Osiride* 383E-F [80]) reminiscent of similar recipes found in the magical papyri; he is specifically mentioned in *PGM* XIII.23 as source for a recipe for the incenses of planets, and at *PGM* III.440 as the transmitter of a recipe for foreknowledge; both of these are likely pseudonymous, but are nonetheless indicative of his reputation as an authority on “magic” in the Roman period. The *Life of Severos, Patriarch of Antioch* describes the finding of several books of magic in the house of a Theban named John living in Beirut; some of these books are attributed to Manetho, others to “Zor<oas>tros the Magian, others to the magician Ostanēs” (M.-A. Kugener, *Vie de Sévère par Zacharie* [*Patrologia Orientalis*, vol. 2.3], Paris, Firmin-Didot, 1904, p. 62); see J. Bidez and F. Cumont, *Les mages hellénisés*, vol. 2, Paris, Les Belles Lettres, 1938, p. 246-247.

earliest surviving Graeco-Egyptian magical papyri do indeed date to the late Ptolemaic and early Roman periods, before the collapse of the Egyptian temple system.<sup>19</sup>

So what is this “magical practice”? Magic is often understood in opposition to religion and/or science, at times defined as “pre-science”, relying on the manipulation of mechanical (though misunderstood) forces of nature, or else as “religion without piety” – practice which commands and compels the divine rather than honouring it.<sup>20</sup> Neither of these fully describes the Graeco-Egyptian magical material.<sup>21</sup> While a few of the recipes, in particular those designated *paignia* or “party tricks” are intended to draw upon natural forces for miraculous effects,<sup>22</sup> most rely upon invoking super-human powers, variously referred to as gods (Greek *theoi*; Egyptian *entēr*),<sup>23</sup> angels (Gr. *aggeloi*), and other terms designating different categories of beings, including spirits, such as the Greek *daimones* and *pneumata*, and the souls of the dead, including the categories known in Egyptian as *ih*<sup>24</sup> and *hasye*.<sup>25</sup> And while the spells at times command these beings, this should generally be seen within the frame of Egyptian religion, in which participants in religious rituals took on the personae of gods and

19. The earliest texts include *PGM CXI* (II-I BCE); *PGM XX*, *PGM CXVII*, *PGM CXXII* (all I BCE).

20. For a discussion of different ideas of magic, see K. Dosoo and J.-C. Coulon, “The Magical Animal: An Introduction”, in this volume.

21. See K. Dosoo and J.-C. Coulon, “The Magical Animal: An Introduction”, in this volume, for an overview of attempts to define magic in Roman Egypt.

22. *Paignia* in the magical papyri may be found in *PGM VII.167-186*, *PGM XIb.1-5*, *PGM CXXVII*. For a discussion see J. N. Davidson, “Don’t Try This at Home: Pliny’s Salpe, Salpe’s *Paignia* and Magic”, *Classical Quarterly*, vol. 45, 1995, p. 590-592. See also the writings of Anaxilaos of Larissa, discussed in M. Wellmann, *Die Φουσικα des Bolos Demokritos und der Magier Anaxilaos aus Larissa*, Berlin, Akademie der Wissenschaften, 1928.

23. The transcription of Egyptian words into Latin characters poses several problems, but is used in the body of this discussion in order to render it more accessible to non-Egyptologists. Here we have chosen to use a transliteration scheme based on the vocalisation of these words in the Roman period, as attested by their writing in Coptic (and more rarely Greek), which is fortunately available for all of the words discussed here; where multiple pronunciations are attested we use the form found in Sahidic, which was apparently the vehicular dialect of Egyptian. This approach is somewhat unconventional, but is intended to give a sense of Egyptian as a living language at the time under discussion; where such writings diverge considerably from those which may be more familiar to Egyptologists, the Middle Egyptian (ME) and/or Demotic (Dem.) conventional transcription will be provided in the footnotes. Common alternative approaches are to provide the consonants only according to one of the available transcription systems, which by the Roman period generally reflected much earlier pronunciations, or to supplement the consonantal base with vowels according to the norms of Egyptological scholarly pronunciations, which often have little relationship to the words’ vocalised form at any period of the Egyptian language’s history. For the word given here, “gods” *entēr* (sing. *noute*), the conventional transcription would be *nt:r:w*, while the Egyptological scholarly vocalisation would be *netjeru*. The Roman period vocalisation is known from Coptic writings as ⲉⲛⲧⲏⲣ (sing. ⲛⲟⲩⲧⲉ) etc., as well as from writings in Greek (most commonly in personal names). For discussions of the problem of transcribing Egyptian see C. Peust, *Egyptian Phonology: An Introduction to the Phonology of a Dead Language*, Peust & Gutschmidt Verlag GbR, Göttingen 1999, esp. p. 13-56; W. J. Tait, “The Transliteration of Demotic”, *Enchoria*, vol. 11, 1982, p. 67-76.

24. ME *ʾh*, Dem. *ihy*; Egyptological vocalisation *akh*.

25. ME/Dem. *hsy*; Egyptological vocalisation *hesy*. For this word cf. K. Dosoo, *Living Death and Deading Life: Animal mummies in Graeco-Egyptian Ritual* in this volume.

interacted with them as equals – at times even threatening them.<sup>26</sup> At other times, the practitioner may command certain lower spirits, but show deference to the higher gods whom he asks to compel these lesser powers.

The identities of these gods and powers are many; some are drawn from traditional Egyptian religion – Isis, Osiris, Anubis, Horus – others from the Greek tradition of the Hellenised cities – Apollo, Helios, Selene, Hecate, Hermes. Jesus is mentioned a few times, as are certain Judaeo-Christian angels, while the Jewish god, whose name is written as Ia(h)ō, is one of the most commonly invoked deities.<sup>27</sup> Some of the supernatural powers originate in Near Eastern traditions, such as the Mesopotamian goddess of the Underworld, Ereškigal,<sup>28</sup> while others, such as Abrasax, seem to originate not from any regional cult, but rather from the ferment of theological speculation within which the magical papyri participated.<sup>29</sup> But while the papyri are highly polytheistic in outlook, they are also deeply cross-cultural and gods, such as Re, Helios and Apollo, for example, can be diverse forms and names for a single solar deity.<sup>30</sup> The equivalence between Greek and Egyptian deities, the *interpretatio graeca*, was established very early in the history of cultural contact between the two cultures, and many seem to have already been stable when Herodotus wrote in the 5th century BCE.<sup>31</sup>

26. R. K. Ritner, “Egyptian Magical Practice under the Roman Empire”, art. cit., p. 3345-3371; J. Assmann, “Magie und Ritual im Alten Ägypten”, in Id. and H. Strohm (ed.), *Magie und Religion*, Munich, Wilhelm Fink, 2010, p. 23-43.

27. W. Fauth, *Jao-Jahwe und seine Engel: Jahwe-Appellationen und zugehörige Engelnamen in griechischen und koptischen Zaubertexten*, Tübingen, Mohr Siebeck, 2014.

28. Ereškigal (Gr. Ἐρεσχιγάλ) appears at least nine times in magical papyri from Egypt, as well as in lead tablets and on magical gems; her name usually appears within series of *vores magicae*, but she seems nonetheless to have been associated with Hecate. For discussions see D. Schwemer, “Beyond Ereškigal? Mesopotamian Magic Traditions in the *Papyri Graecae Magicae*”, in L. M. Bortolani, W. Furley, S. Nagel, and J. F. Quack (ed.), *Cultural Plurality in Ancient Magical Texts and Practices Graeco-Egyptian Handbooks and Related Traditions*, Tübingen, Mohr Siebeck, 2019, p. 62-85, esp. p. 66-67; G. Németh, “Ereschigal – Ereškigal. Migrations of a Goddess”, *MHNH*, vol. 10, 2010, p. 239-246.

29. C.A. Faraone, “Hecate Ereshkigal on the Amulets, Magical Papyri and Curse Tablets of Late-Antique Egypt”, in T. Galoppin and C. Bonnet (ed.), *Divine Names on the Spot: Towards a Dynamic Approach of Divine Denominations in Greek and Semitic Contexts*, Leuven/Paris/Bristol, Peeters, 2021, p. 206-231. For an overview of the evidence for Abrasax see C. Harrauer, “Abrasax”, in H. Cancik and H. Schneider (ed.), *Brill’s New Pauly*, Brill, New Pauly Online, 2006. As Harrauer notes, Abrasax is often associated with a commonly depicted deity with the head of a rooster and legs terminating in snake legs, although it is unclear how closely the name and the figure should be associated with one another; see Á. Nágý, “Figuring out the Anguipede (‘Snake-Legged God’) and his Relation to Judaism”, *Journal of Roman Archaeology*, vol. 15.1, 2002, p. 159-172.

30. L. M. Bortolani, *Magical Hymns from Roman Egypt: A Study of Greek and Egyptian Traditions of Divinity*, Cambridge, Cambridge University Press, 2016, p. 59-116, and C. A. Faraone, “The Collapse of Celestial and Chthonic Realms in a Late Antique ‘Apollonian Invocation’ (PGM I 262-347)”, in R. Boustan and A. Y. Reed (ed.), *Heavenly Realms and Earthly Realities in Late Antique Religions*, Cambridge, Cambridge University Press, 2004, p. 213-232.

31. For a recent overview of this phenomenon see A. von Lieven, “Translating Gods, Interpreting Gods: On the Mechanisms behind the *Interpretatio Graeca* of Egyptian Gods”, in I. Rutherford (ed.), *Greco-Egyptian Interactions: Literature, Translation, and Culture, 500 BCE-300 CE*, Oxford, Oxford University Press, 2016, p. 61-82. Cf. M. Bettini, “*Interpretatio Romana*: Category or Conjecture?”, in C. Bonnet, V. Pirenne-Delforge, G. Pironti (dir.), *Dieux des Grecs, dieux des Romains. Panthéons*

Nonetheless, religious hybridity was very prevalent in the Roman period, and it was common for popular deities such as Isis and Helios to be identified with multitudes of other deities whose attributes, or even simply their gender, might make such an identification plausible.

These divine beings could be invoked for many different purposes.<sup>32</sup> The use of ritual practices for healing is long attested in Egypt, and such recipes are very common in the Roman period – texts prescribe recipes for such problems as abnormal menstrual bleeding, headaches, gout, ulcers, fever, as well as an array of other medical problems and more general “healing” prescriptions, as well as amulets to protect humans, animals and homes from misfortune. Divination is a concern of particular interest in this period; alongside sortition oracles, in which dice might be thrown to reveal which part of a set text (such as excerpts of Homer) should be consulted, many texts call upon superhuman powers to communicate with the user directly – appearing either in waking life or in dreams, sometimes through a medium such as the flame of a lamp or a bowl, sometimes through a child medium. Erotic rituals, or “love spells”, again attested in both earlier and later Egypt, also have an important place; some of these are intended to inflame a (usually female) victim with lust so that she becomes a sexual slave of a (usually male) magician or client, but others assume that the two parties already have a relationship, and their purpose is rather to ensure fidelity. Alongside these are a range of similar spells intended to endear people to their social superiors, separate couples, or restrain anger. Curses were a stereotypical practice of magicians in Roman-period literature, and we find many recipes for this purpose, intended to afflict enemies with personal or professional failure, sickness, paralysis, or even death. In addition to these common practices, we find a dizzying number of rituals for other purposes; although the texts which survive likely represent only a fraction of the material which once existed, they still display a diversity which suggests that the first five centuries of our era were a period of great experimentation and innovation in magical practice in comparison to the periods before and after. Some of these other rituals include those for sending dreams, acquiring general favour and good luck, exorcising demons, controlling ships, acquiring partner gods (*paredroi*), opening doors and loosing bonds.

It is as we begin to discuss the similarly diverse procedures and mechanics that constitute these rituals that animals come into view. As in the practice of the earlier Pharaonic period, but unlike Egyptian magic in later, predominantly Christian and Islamic times, the texts produced in the polytheistic context of early Roman Egypt show a marked interest in non-human animals. We will look here at these beings – divine, mythological, and very corporeal – as they appear in these rituals.

This study is not the first to look at animals in ancient magic. Over the last ten years several general articles have appeared discussing the role of animals in ancient

---

*en dialogue à travers l'histoire et l'historiographie*, Brussels, Institut historique belge de Rome, 2016, p. 17-35; R. Parker, *Greek Gods Abroad: Names, Natures and Transformations*, Oakland, University of California Press, 2017, p. 33-76.

32. For an overview of magic types and their proportions in the surviving magical papyri, see K. Dosoo, “Magical Discourses, Ritual Collections: Cultural Trends and Private Interests in Egyptian Handbooks and Archives”, in T. Derda, A. Łajtar, and J. Urbanik (ed.), *Proceedings of the 27th International Congress of Papyrology*, vol. 2, Warsaw, Journal of Juristic Papyrology, Suppl. 28, 2016, p. 699-716. Cf. J. Dieleman, “Greco-Egyptian Magical Papyri”, *op. cit.*, p. 296-304.

magic,<sup>33</sup> in most cases studies focusing on the literary and encyclopaedic evidence of authors such as Pliny, and so it is worth complementing them with a look at the insider evidence of the magical manuscripts themselves. Likewise, while others have discussed animals in this magical tradition within circumscribed bounds<sup>34</sup> – particular species,<sup>35</sup> for example, or particular aspects such as sacrifice<sup>36</sup> – or within more general studies of magic,<sup>37</sup> the fullest studies to date can be found in three doctoral theses: those of Martin Sicherl and W. Richmann, completed in 1937 and 1946 respectively but never published,<sup>38</sup> and that of Thomas Galoppin, completed in 2015.<sup>39</sup> This study is intended to complement these foregoing works, providing a general introduction and overview to the study of the animal in the magicals papyri.

33. See e.g., R. Gordon, “Magian Lessons in Natural History: Unique Animals in Graeco-Roman Natural Magic,” in J. Dijkstra, J. Kroesen, and Y. Kuiper (ed.), *Myths, Martyrs and Modernity: Studies in the History of Religions in Honour of Jan N. Bremmer*, Leiden, Brill, 2010, p. 249-269; D. Ogden, “Animal Magic”, in G. L. Campbell (ed.), *The Oxford Handbook of Animals in Classical Thought and Life*, Oxford, Oxford University Press, 2014, p. 294-309; P. Watson, “Animals in Magic”, in L. C. Watson (ed.), *Magic in Ancient Greece and Rome*, London; Bloomsbury, 2019, p. 127-165; K. Dosoo, “Circe’s Ram: Animals in Greek Magic”, in J. Kindt (ed.), *Animals in Ancient Greek Religion*, London, Routledge, 2020, p. 260-288.

34. A broader view may be found in A. Salayová, “Animals as Magical Ingredients in Greek Magical Papyri: Preliminary Statistical Analysis of Animal Species”, *Graeco-Latina Brunensia*, 22, 2017, p. 191–206.

35. See, for example, S. Eitrem, “Sonnenkäfer und Falke in der synkretistischen Magie”, in T. Klauser and A. Rücker (ed.), *Pisciculi: Studien zur Religion und Kultur des Altertums*, Munster, Aschendorff, 1939, p. 94-101; E. Nissan, “Animals Calling Out to Heaven: In Support of the Hypothesis of an Alexandrine Egyptian Connection to the Animals Praising Heaven in *Perqe Shirah* (A Chapter of Hymns). Some Evidence from Egypt’s Greek Magical Papyri”, *MHNH*, vol. 14, 2014, p. 167-196; R. Lucarelli, “The Donkey in the Graeco-Egyptian Papyri”, in S. Crippa and E. M. Ciampini (ed.), *Languages, Objects, and the Transmission of Rituals: An Interdisciplinary Analysis on Ritual Practices in the Graeco-Egyptian Papyri (PGM)*, Venice, Edizioni Ca’ Foscari, 2017, p. 89-104.

36. See S. I. Johnston, “Le sacrifice dans les papyrus magiques”, in A. Moreau and J.-C. Turpin (ed.), *La Magie. Actes du colloque international de Montpellier, 25-27 mars 1999*, vol. 2, Montpellier, Publications de l’Université Montpellier III, 2000, p. 19-36, transl. as “Sacrifice in the Greek Magical Papyri”, in P. Mirecki and M. Meyer (ed.), *Magic and Ritual in the Ancient World*, Leiden, Brill, 2002, p. 378-386; A. Petrovic, “Tieropfer in den griechischen Zauberpapyri aus ästhetischer Sicht”, in A. Honold et al., *Ästhetik des Opfers: Zeichen/Handlungen in Ritual und Spiel*, Munich, Wilhelm Fink, 2012, p. 35-62; A. Zografou, *Papyrus Magiques Grecs: le mot et le rite. Autour des rites sacrificiels*, Ioannina, Πανεπιστήμιο Ιωαννίνων, 2013.

37. See T. Hopfner, *Griechisch-ägyptischer Offenbarungszauber*, Amsterdam, Verlag Adolf M. Hakkert, 1974, vol. 1, § 198, 385, 418, 426-463, 491, etc.; L. R. Lidonnici, “Beans, Fleawort, and the Blood of a Hamadryas Baboon: Recipe Ingredients in Greco-Roman Magical Materials”, in M. Meyer and P. Mirecki (ed.), *Magic and Ritual in the Ancient World*, Leiden, Brill, 2002, p. 359-377.

38. M. Sicherl, *Die Tiere in der griechisch-ägyptischen Zauberei, hauptsächlich nach den griechischen Zauberpapyri*, doctoral Thesis, Charles University in Prague, 1937; W. Richmann, *Tiere in den Zauberpapyri*, doctoral Thesis, Berlin, 1946.

39. T. Galoppin, *Animaux et pouvoir rituel dans les pratiques “magiques” du monde romain*, thesis supervised by N. Belayche, EPHE, Paris, 2015. See also Id., “Animaux et pouvoir rituel dans les pratiques ‘magiques’ du monde romain”, *Asdiwal*, vol. 11, 2016, p. 187-190.

*Animals and the divine*

The association of animals and parts of animals – eyes of newt and toes of frog and so on – with magic is so common that we might be tempted to take it for granted, but it is perhaps important to first ask why animals might be used in magical rituals at all.

One possibility is that the animal itself might possess some kind of power (Greek *dunamis*) which the practitioner wanted to manipulate.<sup>40</sup> The most prominent example from the works of the author Pliny the Elder is the hyena, a being believed to change sex each year,<sup>41</sup> to be able to speak in a human voice, to deprive dogs of their bark using its shadow and to freeze animals to the spot by looking at them three times.<sup>42</sup> It seems to be these “magical techniques” (*magicas artes*)<sup>43</sup> that led the authors Pliny

40. On the natural powers of animals, see R. Gordon, “Magian Lessons in Natural History”, art. cit., and T. Galoppin, “Des animaux merveilleux dans la fabrique gréco-romaine de la magie”, in this volume.

41. The belief that hyenas were capable of changing sex is probably due to their ambiguous genitalia; female hyenas have structures resembling a penis and scrotum, the former consisting of an extended clitoris through which the urogenital tract passes. The structure of the female “pseudo-penis”, which serves as a birth-canal, changes after her first litter, becoming looser, and this, together with the distended mammarys caused by breastfeeding, may have given the impression that she had changed her physical sex. This unusual (among mammals) physiological feature is most prominent and best observed in the spotted hyena (*Crocuta crocuta*), whose range was generally south of Egypt, but the striped hyena (*Hyaena hyaena*), the species whose range included Egypt, goes through a less dramatic period of “transient genital abnormalities” between the ages of three and twenty-four months, during which time females develop structures resembling a penis and testicles, and the males swellings resembling labial folds. Both species seem to have been known to writers in the ancient Mediterranean; Oppian, *Cynegetica* 3.288-292, specifies that it is the spotted hyena (στικτή ὕαινα) which changes sex, but Aristotle, who is aware that the apparent changeability of the hyena is due to its physiological uniqueness, seems to have the striped hyena in mind, and understands the genitalia of this species as ambiguous (see the discussion in S. Glickman, “The Spotted Hyena from Aristotle to the Lion King: Reputation is Everything”, *Social Research*, vol. 62.3, 1995, p. 508-511). For discussions of spotted hyena genitalia, see G. R. Cunha *et al.*, “Development of the External Genitalia: Perspectives from the Spotted Hyena (*Crocuta crocuta*)”, *Differentiation*, vol. 87, 2014, p. 4-22; D. R. Rosevear, *The Carnivores of West Africa*, London, Trustees of the British Museum (Natural History), 1974, p. 357; for striped hyenas see A. P. Wagner *et al.*, “Transient Genital Abnormalities in Striped Hyenas (*Hyaena hyaena*)”, *Hormones and Behavior*, vol. 51, 2007, p. 626-632. On the hyena in the ancient world generally, see K. F. Kitchell Jr., *Animals in the Ancient World. From A to Z*, London and New York, Routledge, 2014, p. 34, 75, 92-93, and on the discourses of the sexual metamorphosis of the hyena, see A. Zucker, “Raison fausse et fable vraie. Sur le sexe ambigu de la hyène”, *Pallas*, vol. 41, 1994, p. 27-40. On hyenas in Egypt, see D. Farout, “La hyène dans les assiettes, un particularisme égyptien?”, *Kentron*, vol. 35, 2019, p. 49-106; S. Ikram, “The Iconography of the Hyena in Ancient Egypt”, *Mitteilungen des Deutschen Archäologischen Instituts*, vol. 57, 2001, p. 127-140; I. Régen, “Un animal ‘bien aimé’ des anciens Égyptiens : la hyène rayée”, *Égypte, Afrique & Orient*, vol. 68, 2012, p. 49-58; P. Vernus, “Hyène”, in Id. and J. Yoyotte, *Le bestiaire des pharaons*, Paris, Agnès Viénot/Perrin, 2005, p. 146-150. For a discussion of ancient and modern “readings” of the female hyena’s genitalia, see A. Wilson, “Sexing the Hyena: Intraspecies Readings of the Female Phallus”, *Signs*, vol. 28.3, 2003, p. 755-790.

42. *Historia Naturalis* 8.44; compare 8.34, where it is claimed that the wolf can take speech from a man if he sees him first. For discussions of these passages, see D. Ogden, “Animal Magic”, art. cit.; R. Gordon, “Magian Lessons in Natural History”, art. cit., p. 263-265.

43. *Historia Naturalis* 28.27-92.

calls “the magi” to see the hyena as an animal whose body, stripped into its constituent parts, could be used in dozens of ways – its skin as a phylactery against panthers,<sup>44</sup> its lungs consumed to treat intestinal problems,<sup>45</sup> or its penis as an aphrodisiac,<sup>46</sup> to mention only a few. While the hyena (Greek *huaina*; Egyptian *haite*)<sup>47</sup> is relatively rare in the Graeco-Egyptian magical material,<sup>48</sup> we do find hints of the idea that the inherent power of animals could be used in rituals. Two surviving prescriptions use fish capable of producing electric fields: the electric catfish (Gr. *narkē potamia*)<sup>49</sup> and the common torpedo (Gr. *narkē thalassia*).<sup>50</sup> It may be this wondrous property which led to their use in two practices, the gall of the first<sup>51</sup> or the brain of the second<sup>52</sup> used to anoint the penis, in the first case to ensure the fidelity of a sexual partner, in the second to relax an erect penis. In this, its marvellous ability might be seen as parallel to the use of magnets – those stones with the strange ability to attract or repulse metal – in other magical rituals.<sup>53</sup>

We find suggestions that certain animals might possess hyena-like abilities to work magic of their own in other texts; one love spell contains a coda specifying that its effects cannot be undone by “a barking dog, a braying donkey, or a rooster”, a purifier,

44. *Historia Naturalis* 28.27 93.

45. *Historia Naturalis* 28.27 96.

46. *Historia Naturalis* 28.27 99.

47. ME *h̄t.t.*, Dem. *h̄t.t.*

48. Two recipes for amulets against coughs prescribe hyena skin as the writing surface (PGM VII.203-205, 206-207); the heart of a hyena or hare, perhaps along with two stones, is to be burned on a brazier to summon an *ʿh*-spirit in instructions for a vessel divination (PDM xiv. 82-83); a love spell requires a man’s penis to be anointed with hyena dung and oil of roses before sleeping with a woman (PDM xiv.1194-1195); alternative recipes use the dung of a weasel and an animal whose name is lost with honey for the same purpose (PDM xiv.1190-1193); an amulet for victory is to be made from a tooth taken from the upper right jaw of a hyena (PGM CXXIII.a 69-71).

49. Probably *Malapterurus electricus*; see D’A. W. Thompson, *A Glossary of Greek Fishes*, London, Oxford University Press, 1947, p. 171-172.

50. Probably *Torpedo marmorata*; see *ibid.*, p. 169-171. On the history of this fish see B. P. Copenhaver, “A Tale of Two Fishes: Magical Objects in Natural History from Antiquity Through the Scientific Revolution”, *Journal of the History of Ideas*, vol. 52.3, 1991, p. 373-398.

51. PGM XXXVI.283-285.

52. PGM CXXVII.1-2; compare PGM CXXIIIa.72, a fragmentary recipe for an unknown purpose which involves anointing with the fat of a *várkē*. See A. Debru, “Les enseignements de la torpille dans la médecine antique”, in I. Boehm and P. Luccioni (ed.), *Le médecin initié par l’animal. Animaux et médecine dans l’Antiquité grecque et latine*, Lyon, Maison de l’Orient et de la Méditerranée-Jean Pouilloux, 2008, p. 39-47.

53. For magnets in the magical papyri, see PGM II.18; PGM III.188, 512; PGM IV.1722, 2162, 2631; PGM XXIIa.11; PGM LXII.40; cf. the *ks-ʿnh* (“living [iron] ore” [?]), probably magnetite, in PDM xiv.285, 305, 815, 113; PDM Suppl. 86. On the Egyptian word (*b*)*ks-ʿnh* see J. R. Harris, *Lexicographical Studies in Ancient Egyptian Minerals*, Berlin, Akademie Verlag, 1961, p. 168-170; Harris suggests that the appearance of the Greek loanword *μάγνης* in PDM xiv (l. 905-910) means that *ks-ʿnh* must have a distinct meaning, but this wrongly assumes that PDM xiv is a unitary text, whereas in fact it is a collection of several texts from distinct sources, and *μάγνης* appears in a section probably translated in a fairly literal fashion from an originally Greek text; see J. Dieleman, *Priests, Tongues and Rites*, *op. cit.*, p. 120.

the sounds of cymbals and flute, or heavenly phylacteries.<sup>54</sup> This idea, that the vocalisations of certain animals might be able to undo spells, perhaps in conjunction with religious rituals, is a fascinating one.<sup>55</sup> Similarly, a *paignia* recipe instructs the user to take a stone bitten by a dog, and to throw it into a crowd to start a fight, with the dog's rage apparently transferred through its bite, even through the medium of a stone.<sup>56</sup>

But these examples of animals with an inherent, natural power are in the minority, and far more often it seems that the use of animals in Graeco-Egyptian magic is linked to the relationship these creatures had with the superhuman powers upon whom the rituals relied. The first of the two electric fishes discussed above may in fact provide an example of this: while the torpedo is almost certainly used for its marvellous properties, the electric catfish may have had a religious significance – in this case an association with the genitals of the god Osiris – which could have been more important for its use in an erotic practice.<sup>57</sup>

Connections between certain gods and certain animals existed in many of the religious traditions of the ancient Mediterranean, but the relationship between the god and the animal could be expressed in different ways; mythological narratives offer several instances of such relationships through tales of metamorphosis.<sup>58</sup> The author Plutarch represents one Greek perspective when he tells us that a particular species

---

54. *PGM XXXVI.157-159*: ... οὐ μὴ σὲ λύσῃ οὐ κύων βαμβύζων, οὐκ ὄνος ὀγκόμενος, οὐ γάλλος, οὐ περικαθάρτης, οὐκ ἦχ[ο]ς κυμβάλου, οὐ βόμβος αὐλοῦ, ἀλλ' οὐδὲν ἐξ οὐρανοῦ φυλακτήριον περὶ πᾶν.

55. We might note that the noises made by the dog, the donkey and the cock are particularly loud and distinctive, and likely common in both rural and urban areas throughout both Egypt and Greece. Compare *PDM lxi.159-196 (PGL LXI.1-38)*, a love spell in which the ritualist may free the woman from the effects of the ritual by placing a sun scarab in the middle of her head, and asking it to “gulp down my love charm” (ῥύψῃσον τὸ ἐμὸν φίλτρον) and releasing it alive. In this case, however, the scarab is explicitly an “image of Helios”.

56. *PGM CXXVII.7-8*.

57. For the use of fishes in erotic magic, see K. Bradley, “Law, Magic, and Culture in the ‘Apologia’ of Apuleius”, *Phoenix*, vol. 51.2, 1997, p. 203-223 and L. C. Watson, “The *Echeneis* and Erotic Magic”, *Classical Quarterly*, vol. 60, 2010, p. 639-646, as well as C. A. Faraone, “The *Echenēis*-Fish and Magic”, in this volume. See also D. Montserrat, *Sex and Society in Graeco-Roman Egypt*, London, Keegan Paul, 1996, p. 199-200, who specifically mentions the *Tilapia nilotica* as the fish who swallowed the penis of Osiris after his dismemberment; their mouthbrooding (incubating their eggs in their mouth and releasing them when they hatch) providing a parallel to human ejaculation. The account of Osiris’ penis being eaten by a fish comes from Plutarch, *De Iside et Osiride* 18 (358B), which mentions the *λεπιδωτός, φάγρος, ὄξύρυγχος* (the Oxyrhynchus or Elephant snout; *Mormyrus* sp.); for the problems in identifying the first two of these fishes, see D’A. W. Thompson, *A Glossary of Greek Fishes, op. cit.*, p. 148-149, 184-185, 274-275; they may perhaps be the Silver Fish or Bynni (*Barbus bynni*) and Nile Perch (*Lates Niloticus*). As Griffiths notes, the story of Osiris’ penis being eaten by a fish is apparently unknown in Egyptian language sources (J. G. Griffiths, *Plutarch’s De Iside et Osiride*, Cambridge, University of Wales Press, 1970, p. 342-344); the closest Egyptian-language parallel is found in the *Tale of the Two Brothers*, where one of the characters castrates himself, and throws his penis into the Nile, where it is consumed by a catfish (*n’r*, 7.9).

58. Here we should consider not only the metamorphoses of the gods themselves, but also changes of shape provoked by gods; see P. M. C. Forbes Irving, *Metamorphosis in Greek Myths*, Oxford, Clarendon Press, 1990.

could be sacred (*hieros*) to a particular deity, as the pigeon is to Aphrodite.<sup>59</sup> In magical rituals this link could be manipulated, and so we can find such a symbolic association in the use of dove fat and blood in a burnt offering to this goddess;<sup>60</sup> here, the offering is made to the planet Venus (in Greek the ‘Star of Aphrodite’), linking the religious conception of the “sacred” animal to the astrological concept of cosmic sympathy. The god Apollo was likewise linked to the wolf, the raven, and the mouse, among other animals, and so in one ritual to summon him we find the instructions to place a lamp on the head of a wolf (Gr. *lukos*; Eg. *wōnš*),<sup>61</sup> and to include in the burnt offering the plant ‘wolf’s eye’ (*lukou ophthalmos*), whose connection relies on its paronomasiac use of “wolf” in its name.<sup>62</sup> Can we therefore see here a use of the wolf as an animal sacred (*hieros*) to Apollo?<sup>63</sup>

This question is fundamental since, in this corpus, Greek ways of thinking about divine-animal relationship meet Egyptian ideas about the gods, among which animals played an even more prominent role. The fact that Egyptians depicted their gods in animal or part-animal forms, and had cults dedicated to particular animals, was a source of fascination and horror to many neighbouring cultures – it received negative comments in the Greek, Roman, and Jewish traditions, to name only the three best attested – but it was a very real phenomenon.<sup>64</sup> The theological texts produced in

59. Plutarch, *De Iside et Osiride* 1 (379d). Plutarch opposes this Greek conception to the divinisation of animals by the Egyptians, but, in the end, finds a compromise in the idea that animals can be, if not divine images, images of the divine. This theoretical statement is quoted out of context at the end of L. Bodson, *Τερα ζῴια. Contribution à l'étude de la place de l'animal dans la religion grecque ancienne*, Bruxelles, Académie royale de Belgique, 1978, p. 166-167.

60. PGM IV.2891-2942. On this ritual, see M. Tardieu, “Les noms magiques d’Aphrodite en déesse barbare (PGM IV 2912-2939)”, in Id., A. Van den Kerchove, and M. Zago (eds.), *Noms barbares*, *op. cit.*, p. 225-238.

61. Here we use the translation “wolf” for the animal called in Egyptian *wnš/oywōw* and in Greek *λύκος*; until recently it has been more common to refer to the animal as a “jackal” (or more conservatively as a “canid”), despite the conventional translation of the Greek term as “wolf”, and the preference of many native Egyptians and visitors to Egypt for “wolf”, based on similarities to the grey wolf (*Canis lupus*). Recent genetic studies have suggested that this animal, usually called the African or Egyptian golden jackal (*Canis lupaster*), is more closely related to the wolf, leading to the adoption of the name African wolf; this may lead to a future change in the species name. For a summary of the question, see C. Kitagawa, *The Tomb of the Dogs at Asyut. Faunal Remains and Other Selected Objects*, Wiesbaden, Harrassowitz Verlag, 2016, p. 25-26.

62. PGM I.262-347.

63. This is the solution proposed by A. Zografou, “Sous le regard de λύκος : lampes et dieux dans une ‘invocation apollinienne’ (PGM I, 262-347)”, *Mythos* n. s., vol. 2, 2008, p. 61-76. This would rely on the association in Greece between Apollo and the wolf, an association that the author of the ritual might well have been aware of. A deeper question here is that of the ritual function of the wolf’s head: should it be understood solely as a symbol (that is, a tool used to call upon the action of the god), or as part of a divine image (that is, a material configuration that functions as the physical manifestation of the god)?

64. K. A. D. Smelik and E. A. Hemelrijk, “‘Who knows Not What Monsters Demented Egypt Worships?’ Opinions on Egyptian Animal Worship in Antiquity as Part of the Ancient Conception of Egypt”, in W. Haase (ed.), *Aufstieg und Niedergang der römischen Welt*, vol. 2.17.4, Berlin & New York, Walter de Gruyter, 1984, p. 1852-2000; cf. J. Kindt, “Greek Anthropomorphism versus Egyptian Zoomorphism: Conceptual Considerations in Greek Thought and Literature,” in Id. (ed.), *Animals in Ancient Greek Religion*, London, Routledge, 2020, p. 126-149.

Egyptian temples sometimes describe particular animals as the *biou* (sing. *bai*)<sup>65</sup> of particular gods, and they may use this word either of individual animals, such as the Apis bull, the *bai* of Ptah, or of entire species, with the ibis being the *bai* of Thoth.<sup>66</sup> The word *bai* poses problems of interpretation, and it was translated into Greek both as “soul” (*psukhē*) and “image” (*eidolon*), but a better term in this case might be “manifestation”.<sup>67</sup> In cosmogonic texts, the creator god could be described as “one who made himself into many”,<sup>68</sup> with every aspect of the created world – humans, animals, plants, the earth, and celestial bodies – representing to some degree manifestations of this divine power. The individual gods who were among the children of the creator god could likewise manifest their power through animals with whom they had a special relationship.

To some extent, this relationship could be rationalised in terms of Greek philosophy; this was carried out by some of the later Neoplatonist philosophers who discussed theurgy, elaborating a theory of Greek and Graeco-Egyptian magico-religious practice. Iamblichus, writing under the assumed identity of the Egyptian priest Abammon, wrote that animals, like the stones, herbs, and aromatics used in rituals, participated in the divine, and had a relationship with the higher powers which had first created and now controlled them.<sup>69</sup> Two of the terms he used to designate these divine tokens – symbols (*sumbola*) and signs (*sēmeia*) – appear occasionally in the magical texts, at times to describe the particular relationship of animals to the gods, suggesting some sort of dialogue between these practical texts and the philosophical literature with which it was contemporary.<sup>70</sup> Similarly, magical texts which describe the animals as the forms

65. ME *b*<sup>2</sup>; Dem. *by*; Egyptological vocalisation *ba*. For the vocalisation see W. Vycichl, *Dictionnaire étymologique de la langue copte*, Leuven, Peeters, 1983, p. 25.

66. D. Kessler, *Die heiligen Tiere und der König. Teil I. Beiträge zu Organisation, Kult und Theologie der spätzeitlichen Tierfriedhöfe*, Wiesbaden, Otto Harrassowitz, 1989, p. 12-15.

67. For the question of translation, see J. Quaegebeur, “Mummy Labels: An Orientation”, in E. Boswinkel and P. Pestman (ed.), *Textes grecs, démotiques et bilingues*, Leiden, Brill, 1978, p. 253-254.

68. J. Assmann, *Egyptian Solar Religion in the New Kingdom: Re, Amun and the Crisis of Polytheism*, transl. A. Alcock, London and New York, Kegan Paul International, 1995, p. 150-155.

69. See for example Iamblichus, *De Mysteriis* V.8, on the connection between animals and gods, where the dog, baboon and shrew are said to have powers and activities with an affinity to the moon (τὰς... δύναιμις καὶ ἐνεργείας... κοινὰς οὐσας πρὸς σελήνην), cf. VI.3. For a discussion see T. Galoppin, “Faire de la ‘puissance’ dans quelques pratiques ‘magiques’ gréco-égyptiennes du début de notre ère”, in C. Bonnet, N. Belayche, et al. (ed.), *Puissances divines à l’épreuve du comparatisme: constructions, variations et réseaux relationnels*, Turnhout, Brepols, 2017, p. 321-332.

70. On the terms σύμβολον, and σημεῖον, see G. SHAW, *Theurgy and the Soul: The Neoplatonism of Iamblichus*, Pennsylvania, Pennsylvania State University Press, 1995, p. 162-169. Σύμβολον is used in *PGM* III.701; *PGM* IV.559, 945, 2292, 2304, 2323; *PGM* VII.786, 883, *SM* 42 side a l. 25, to designate the symbols of a deity. These “symbols” include magical words as well as inanimate objects such as sandals, and plants such as trees, but also many animals – the serpent, lion and scarab are σύμβολα of the sun-god (*PGM* IV.945), the mare, female serpent, lion, she-wolf of the moon (*PGM* IV.2304; cf. the extensive list of σύμβολα from *PGM* VII.756-794 given below). Note however that these materials, plants, and animals are only ever evoked in ritual speech, and hence, σύμβολα here are only words. This suggests a certain semantic dissonance between philosophical and ritual terminology. Σημεῖον, in reference to mystical symbols (including animals), is found in *PGM* III.499, 535, 624, 628; *PGM* IV.2940; *PGM* VII.786; it is also used to refer to an event which

(*morphai*) of the gods,<sup>71</sup> at times using this term alongside the Neoplatonist vocabulary, may draw upon an Egyptian concept of the animal as a divine manifestation.

### *The animal-divine relationship*

The huge range of deities from different traditions invoked in the magical papyri makes providing a full list of the animals and their relationships to the gods daunting, but it is worth discussing some of the most important of these. The dog (Gr. *kunos*; Eg. *uhor*<sup>72</sup>, *ēu*<sup>73</sup>) often black, appears regularly, with two distinct links – female dogs are usually mentioned in connection with Hekate, who appears as a goddess of the moon and the underworld,<sup>74</sup> while in other, particularly Demotic texts, male dogs are linked to the Egyptian underworld deities Anubis and Wepwawet;<sup>75</sup> this link between dogs and death deities can be seen in one love spell, whose text tells us it has been buried “in this land of the dogs”, that is, a necropolis.<sup>76</sup> The wolf has similar connections – both to Anubis<sup>77</sup> and to the moon-goddess Mene, who is usually identified with Hekate<sup>78</sup> – but as we have already seen, a third connection existed with the solar deity Apollo, with wolf *materia* being used in rituals involving the sun god.<sup>79</sup> The falcon (Gr. *hierax*; Eg. *bēk*)<sup>80</sup> is usually identified with Horus, another solar deity,<sup>81</sup> although the falcon is also occasionally associated with lunar deities, such as Thoth and Mene,<sup>82</sup> perhaps

---

serves as a “sign” (that is, proof) of the working of the ritual – see, for example, *PGM* I.65, 74, *PGM* IV.209, 1102, 2334, *PGM* X.22, *PGM* LVII.16, 28, and as a term for a magical symbol or *kharaktēr*, for example in *PGM* IV.1263-1264. The related term σύνθημα does not appear in the extant magical papyri.

71. *PGM* II.109, 111; *PGM* III.4, 5, 91, 500-531; *PGM* IV.1648-1694; *PGM* VIII.9-11; *PGM* XXXVIII.20-28; *PGM* CXI.13. In these cases the Greek μορφή may be equivalent to the Egyptian *hprw* (Dem. *hrb*); the equivalence is demonstrated by the use of the Coptic form ϣϣ to translate the Greek (W. E. CRUM, *A Coptic Dictionary*, Oxford, Clarendon Press, 1939, p. 701b).

72. Dem. *whr*, cf. ME *whr.t*.

73. ME/Dem. *īwīw*; for the vocalisation see W. VYČIHL, *Dictionnaire étymologique*, *op. cit.*, p. 56.

74. The moon goddess may variously be described as leading a pack of dogs, being shaped like a dog, or having the voice of a dog; see *PGM* IV.1434, 2121-2122, 2251, 2279, 2336, 2531, 2550, 2615, 2722-2723, 2810-2811, 2813-2814, 2875, 2880-2882; *PGM* VII.781; *PGM* LXX.10; *SM* 42.1-2; *SM* 57.1.

75. Anubis is regularly invoked as a dog, or dog-headed being: *PGM* V.266; *PGM* XII.491-492; *PDM* xiv.190-191, 422, 536, 554-562, 587-588, 633; *PGM* XVIIa.3; *PDM* Suppl.112-113, 115, 146.

76. *PGM* CI.16-17.

77. *PGM* VIII.11; *PDM* xiv.422, 585-593. For the translation “wolf” for the canid of Anubis, see n. 61 above.

78. See, for example *PGM* IV.2276, 2551, 2812-2813 (the moon-goddess herself is called a she-wolf or wolf-formed); *PGM* IV.2302-2303; *PGM* VII.781 (the wolf is a symbol of the goddess); *SM* 49.4 (the moon-goddess is a wolf-tamer).

79. *PGM* I.281, 285; *PGM* II.142-143; *PGM* IV.1317-1318; *PGM* VII.729.

80. ME./Dem. *bik*. The writing <ḳ> here and elsewhere is intended to represent a palatalised velar stop, written in the Coptic alphabet as *kjima* <ϣ>; this sound is that of the <c> in English words such as *cube* and *cute*.

81. *PGM* I.4-5, 60; *PGM* II.109; *PGM* III.527; *PGM* IV.1681-1682; *PGM* XIII.157, 467.

82. *PGM* IV.2591, 2598-2599, 2660; *PGM* VII.756-794.

as a result of a development in Egyptian theology in the Ptolemaic period in which Horus and Thoth were syncretised into a single deity, Har-Thoth, as representatives of the celestial bodies of day and night, represented by the falcon and ibis respectively.<sup>83</sup>



Fig. 1. Images of a falcon and an ibis to be copied as part of a dream oracle calling upon Har-Thoth (*PDM* lxi.63-78)

This close association of the ibis (Gr. *ibis*; Eg. *hibōi*) with Thoth led in turn to secondary associations with Hermes, the *interpretatio graeca* of Thoth,<sup>84</sup> and with the female lunar goddess, whose names included Mene, Selene, and Hekate,<sup>85</sup> and the same was true of Thoth's other sacred animal, the baboon (Gr. *kunokephalos*; Eg. *ēn*),<sup>86</sup> a small statue of which is created in one ritual, wearing the winged hat of Hermes,<sup>87</sup> and which is invoked in another as one of the forms of Mene.<sup>88</sup> And, as with the ibis, the idea that the moon and the sun were fundamentally linked could lead to the baboon being considered as a solar creature in one case.<sup>89</sup>

83. See J. D. Ray, *The Archive of Hor*, London, Egypt Exploration Society, 1976, p. 137; cf. *PGM* III.523, *PGM* IV.1688-1689 (where the sun-god has the form of an ibis), 619-620 (where the sun-god wears the feathers of an ibis and falcon); *PDM* xiv.74-75 (where the god is invoked as both an ibis and a falcon [*nšr*]); *PDM* lxi.63-78 (a dream oracle calling upon Har-Thoth). See also *PGM* IV.49, where the contents of an ibis and a falcon eggs are used to anoint the eyes in an initiation ritual.

84. *PGM* I.246; *PGM* V.376; *PGM* VIII.9-10; *PGM* XII.146; *PDM* xiv.54, 74, *PDM* lxi.63-78, 87.

85. *PGM* IV.2461, 2588, 2652, 2688.

86. ME *j'n*; Dem. "n(y). An association between the baboon and Thoth-Hermes may be found in *PGM* IV.99, 105; *PGM* VIII.10, 29.

87. *PGM* VIII.53-59.

88. *PGM* VII.782. Other texts connecting the baboon and the lunar goddess include *PGM* IV.2460-2461, 2587, 2601, 2651-2652, 2662-2663, 2687-2688.

89. *PGM* IV.1686-1688. A mention of a λύγξ in *PDM* XIII.882 as one of the "images of god" seems likely another reference to the baboon rather than a lynx; cf. L. Prada, "Translating Monkeys Between Demotic and Greek, or Why A Lynx is not Always a Wildcat: (λυκο)λυγξ = (wnš-)kwf\*?", *Zeitschrift für Papyrologie und Epigraphik*, vol. 189, 2014, p. 111-114.

Similar flexibility is shown by the scarab beetle (Gr. *kantharos*; Eg. *amhrēre*),<sup>90</sup> a creature whose usual association is solar, but which could also be connected with other celestial bodies according to its form. The usual, solar, scarab is called “cat-faced” by the writer Horapollo, and seems to have had ray-like protrusions on its face which strengthened its link to the sun, while the lunar or “bull-shaped” scarab had two horns shaped like those of a bull, an animal sacred to the moon.<sup>91</sup> The scarab associated with the planet Mars seems to have had shield-like protrusions on its head, creating a connection with the god of war,<sup>92</sup> and a fourth type of scarab, the “ibis-shaped”, is mentioned by Horapollo, although it does not appear in the surviving magical material. It seems to have had a single curved horn, and, since the bull-formed scarab was sacred to the moon, the ibis-shaped scarab probably linked to the planet Mercury, associated with Thoth’s *interpretatio* Hermes.

We find several more animals associated with another important celestial body, Ursa Major, a constellation near the North Pole. In Greek, this constellation was called *Arktos*, “the Bear”, associated with Kallisto, a companion of Artemis. Since Artemis is used in the magical texts as a name of the syncretistic moon-goddess, there is at times a close association between Ursa Major and the moon, with animals sacred to one being used in rituals calling upon the other. But the bear is absent among these, and while the constellation is invoked as female under its Greek name *Arktos*, it seems to

90. Dem. *mhr̄r*. For the vocalisation of this word, see W. Vycichl, *Dictionnaire étymologique*, *op. cit.*, p. 131; J. Černý, *Coptic Etymological Dictionary*, Cambridge, Cambridge University Press, 1976, p. 7.

91. Horapollo (*fl.* 500 CE) describes the three types of scarab beetle in his *Hieroglyphica* (1.10.17-29): the first, called “cat-formed” (αἰλουρόμορφος) is sacred to the sun, rayed (ἄκτινωτή), and has thirty toes (one for each of the days of the solar month); the second is “bull-shaped” (ταυροειδής), two-horned and sacred to the moon, while the last is “ibis-formed” (ἰβιδόμορφος), one-horned, and sacred to Hermes (presumably the planet Mercury). The “cat-formed” beetle probably referred to the sacred scarab (*Scarabaeus sacer*) and similar species, probably the same as the solar beetle (κάνθαρος ἡλιακός, *PGM* IV.751-752), described in the magical papyri as having “twelve rays”. It should probably be understood as a horn-less beetle whose head and forelegs have a number of small tubercles (projections) which may be approximately twelve in number; alternatively, the “rays” may be the striations on the wing-case; the “thirty toes” may be understood as five articulations or claws on each of the six legs. In one text this beetle is drowned and mummified to wear as an amulet in a ritual of mystic ascent to witness the sun god; in another spell, one is used to “gulp down” and hence cancel a love spell (*PGM* LXI.34), see *supra* n. 55. The “bull-shaped” and “ibis-formed” scarabs would then be understood as physically similar beetles with either two or one horns respectively, although it may not be possible to identify the exact species; see P. A. Latreille, “Des insectes peints ou sculptés sur les monumens [*sic*] antiques de l’Égypte”, in *Mémoires sur divers sujets de l’histoire naturelle des insectes*, Paris, A. Belin, 1819, p. 145-165, esp. 148-154. Lunar beetles (κάνθαροι σεληνιακοί, *PGM* IV.2457-2458, 2684-2691) are probably the same as the two-horned “bull-shaped” scarabs described by Horapollo. They are used as offerings in a ritual to the moon-goddess, and once threatened by being suspended over a fire to compel a summoned deity (called in this case a “bull-formed scarab”, κάνθαρος ταυρόμορφος, *PGM* IV.63-85).

92. The scarab of Mars (*mhr̄r n hr-dšr*, *PDM* xiv.636; literally “of Red Horus”, the Egyptian name of the planet), not mentioned by Horapollo, is described as horn-less, with three “shields” (*ky*m, l. 636) on the front of its face; the same ritual mentions that the “(beetle) with two horns” (*p’ nty ḫy tp 2*, *PDM* xiv.637), probably the bull-shaped lunar beetle, may be used as an alternative. For a discussion of rituals involving the drowning of scarabs, see K. Dosoo, “Living Death and Deading Life: Animal Mummies in Graeco-Egyptian Ritual”, in this volume.

draw many of its associations from Egyptian astronomy, in which it was known as the Foreleg, and mythologically understood as (the foreleg of) the god Seth-Typhon, in the form of a bull.<sup>93</sup> It is for this reason that the bull is sometimes associated with Ursa Major,<sup>94</sup> and the constellation is even described as a bull's shoulder in one Greek text.<sup>95</sup> The animal most commonly associated with Seth-Typhon, however, is the donkey (Gr. *onos*; Eg. *iḏ*);<sup>96</sup> depictions of Seth as a donkey-headed god go back to the Late Period in Egypt.<sup>97</sup> He was understood to be a mighty and violent god, often opposed to the sun and the other deities, and he is regularly called upon in curses and erotic rituals to force the spell's victims and lesser divine powers to submit to the ritualist. This probably explains the prevalence of mentions of donkeys, and the use of their body-parts, in such practices,<sup>98</sup> and the association between donkeys and Seth was so strong that donkey blood, often used as an ink, is frequently referred to as "blood of Typhon".<sup>99</sup> But in Egyptian myth Seth is also understood as one of the gods who protect the barque of the sun-god from the nightly attacks of the serpent, Apep, and in this role he is understood as the "son of the sun".<sup>100</sup> There are some suggestions that, in the Roman period, he was paradoxically understood as a solar deity at times, representing

93. O. Neugebauer and R. A. Parker, *Egyptian Astronomical Texts III: Decans, Planets, Constellations and Zodiacs*, Providence, Brown University Press, 1969, p. 189-19.

94. *PGM* IV.673-674 (where the lords of the celestial north pole have bull heads); *PGM* IV.1333, 1136 (where materia from a bull is used in invocations of the constellation); *PGM* VII.700 (where the goddess Ursa Major is described as bull-like).

95. *PGM* IV.669-700.

96. As we might expect, the donkey may also be associated with Ursa Major; see *PGM* IV.1332.

97. For a discussion and some examples see E. O. D. Love, "'Crum's Chicken': Alpak, Demonised Donkeys, and Avianised Demons among the Figures of Demotic, Greek, and Coptic Magical Texts", in this volume, and H. Te Velde, *Seth: God of Confusion: A Study of his Role in Egyptian Myth and Religion*, transl. G. E. van Baaren-Pape, Leiden, Brill, 1967, p. 14. As te Velde notes, the depiction of Seth as a donkey is a later development; before the Late Period, he was more often associated with the "Seth-animal" (*š*), a probably mythical creature with a long downward-curving snout, long ears with squared tips, greyhound-like body and erect, feathered tail. In the magical papyri, the association of the donkey is extended to Seth's wife Nephthys; see *PGM* XIa.1-40, where the tooth of a donkey is used to control a supernatural assistant given by the goddess, and *PDM* xiv.84 where the dung of a donkey and the amulet of Nephthys are burned on a brazier to compel a dead man to appear in a vessel divination ritual.

98. See, for example, *PGM* IV.2897, 255-3274; *PGM* VII.652-653; *PDM* xiv.379, 1042, *PGM* XXXVI.362, *PDM* Suppl.16, 58. Compare *PDM* xii.69, 76, 88; *PDM* xiv.676, 679-680, 693 where the Sethian donkey appears in the context of separation spells.

99. Αἷμα Τυφῶνος – see *PGM* IV.2222, 3258; *PGM* VII.652-653, *PGM* XII.98; *PDM* xiv.693, *PGM* LXI.61; P. Oxy. LXXXII.5305, col. ii, 11.4-24; compare *PGM* IV.2101, *PGM* VII.301, *PGM* XIb.4, *PDM* xii.80, *PDM* xiv.679-680; *PGM* XXVI.71 where the less euphemistic "blood of a donkey" (αἷμα ὄνιου/*snfn* *ʕ(t)*) is used. See also *PGM* XIa.1-2, where the skull of a donkey is called the "skull of Typhon" ([Τυ]φῶ[ν]ος κρανίον), but referred to as the "skull of the donkey" (τὸ κρανίον τοῦ ὄνου) later in the same text (l. 38); a donkey's head recurs in *PDM* xiv.676, 679, where it is used in a separation spell.

100. H. Te Velde, *Seth: God of Confusion*, *op. cit.*, p. 99-108; E. Cruz-Uribe, "Sth ʕ Phyt: Seth, God of Power and Might", *Journal of the American Research Center in Egypt*, vol. 45, 2009, p. 201-226.

in particular the sun's burning heat,<sup>101</sup> and this may be reflected in texts which describe the sun as having the form of a donkey in the fifth or sixth hour; this would be midday, the time of the sun's greatest strength.<sup>102</sup>



Fig. 2. A: depiction of the sun-god as Harpocrates in the solar barque surrounded by animals representing his various forms. (Ann Arbor, University of Michigan, Kelsey Museum of Archaeology, 26109.)

The idea that the sun, and other gods, had multiple animal forms recurs throughout the texts, and is worth examining in more detail.<sup>103</sup> This is often linked to the daily cycle, with the sun at times having twelve forms, one for each hour of the day<sup>104</sup>. This was in turn linked to the astrological idea of the *dōdekaōros* (“twelve-hours”): that each hour was associated with a particular animal, whose form the sun would take on over the course of the day.<sup>105</sup> Lists of these forms appear three times in the surviving

101. For Seth as a solar deity, cf. Plutarch, *De Iside et Osiride*, 364A-B (33), 367C-E (40-41), 372A-E (51-52), who disagrees with the idea, but finds it necessary to mention several times in order to refute it. In the magical papyri, see *PGM* III.1-164, where a solar cat-faced deity is associated with Seth, *PGM* IV.154-285, a ritual whose description mentions Helios as the main god, and which takes place at midday, but calls upon Typhon. But note also passages such as *PGM* XXXIIa.1-4, *PGM* LXVIII.1-20, where Seth is called the enemy of the sun-god Helios.

102. *PGM* III.514, *PGM* IV.1653-1654, *PGM* XXXVIII.24. Compare *PGM* IV.259-260, where the ritualist wears a strap made from donkey-hide in a ritual associated with Helios but which calls upon Typhon.

103. For further discussion of these passages, see R. Merkelbach and M. Totti, *Abbrasax: Ausgewählte Papyri religiösen und magischen Inhalts*, vol. 1, Opladen, Westdeutscher Verlag, 1990, p. 104-122; M. Sicherl, *Die Tiere*, *op. cit.*, p. 281-300.

104. See J. Assmann, “Magic and Theology”, in P. Schäfer and H. G. Kippenberg (ed.), *Envisioning Magic. A Princeton Seminar and Symposium*, Leiden-New York-Köln, Brill, 1997, p. 1-18.

105. On the concept of the *dōdekaōros*, see A. von Lieven, “From Crocodile to Dragon. History and Transformations of the *Dodekaoros*”, in D. Brown (ed.), *The Interactions of Ancient Astral Science*, Bremen, Hempen Verlag, 2018, p. 124-137; F. Cumont, “Zodiacus”, in E. Saglio, E. Pottier and G. Lafaye (ed.), *Dictionnaire des Antiquités grecques et romaines*, Paris, Hachette & Co., 1917, vol. 5, col. 1046-1062 (1047-1053) (new ed. in F. Cumont, *Astrologie*, D. Praet and B. Bakhouché (ed.), Turnhout, Brepols, 2014, p. 151-197); H. G. Gundel, *Weltbild und Astrologie*

Greek texts (see table 1). There seem to be two distinct lists, one of which appears in two copies and agrees with the *dōdekaōros*. We may note that, in both lists, the sun-god takes on forms which are both characteristically solar (the scarab, cat, lion) and lunar (baboon, ibis), as well as forms associated with deities such as Typhon (the donkey). While patterns are hard to draw, we can note that two particularly powerful animals – the lion and donkey – recur around midday, while lunar animals – such as the ibis – appear towards the end of the day, as the sun would be setting. This same scheme could be applied to the year, with the twelve animals being associated with the zodiacal signs and, hence the twelve months of the solar year; demonstrations of this equivalence may be found on surviving planetary tables such as the Daressy Table. In the form of a circle, this table is divided into twelve sections, each of which contains one of the *zōdia* (figures of the zodiac) and one of the *morphai* of the *dōdekaōros*;<sup>106</sup> in the annual cycle the donkey and lion correspond to the heat of summer (respectively Leo and Virgo), while lunar or aquatic animals correspond to the colder months (the baboon-Capricorn, the ibis-Aquarius, the crocodile-Pisces).<sup>107</sup> The *dōdekaōros* is thus

---

*in den griechischen Zauberpapyri*, Munich, C. H. Beck'sche, 1968, p. 3-6; F. Boll, C. Bezold and H. G. Gundel, *Sternglaube und Sterndeutung: Die Geschichte und das Wesen der Astrologie*, Darmstadt, Wissenschaftliche Buchgesellschaft, 1966, p. 57, 147-148, 187-200; F. Boll, *Sphaerae: Neue griechische Texte und Untersuchungen zur Geschichte der Sternbilder*, Leipzig, Teubner, 1903, p. 295-323; W. Hübner, "Zur neuplatonischen Deutung und astrologischen Verwendung der *Dodekaoros*", in D. Harlfinger (ed.), *Philophronema. Festschrift für Martin Sicherl zum 75. Geburtstag. Vom Textkritik bis Humanismusforschung*, Paderborn, F. Schöningh, 1990, p. 73-103; cf. Iamblichus, *On the Mysteries* VII.3; S. Weinstock, "Lunar Mansions and Early Calendars", *The Journal of Hellenic Studies*, vol. 69, 1949, p. 48-69. As discussed by several of the authors, the *dōdekaōros* seems to have essentially provided a list of twelve animals which could be used for several different purposes – to serve as an alternative to the zodiac in dividing the ecliptic into twelve equal sections through which the sun passed in the course of the year, to mark a repeating series of twelve-year periods, to identify *paranatellonta* (asterisms which rose at the same time as the zodiacal signs), or subsets of the asterisms of the zodiac, as animals designating the twelve hours of the day from sunrise to sunset, or a series of twelve double hours making up the twenty-four hours of the diurnal period. While several of these conceptions are attested in Roman Egypt, in *PGM* IV.1596-1715 the list seems to be understood as representing the daily cycle; it is preceded by a description of the sun's rising in the south-east (l. 1647) and is followed by a description of his setting (l. 1695-1696). This would agree with the usual meaning of ὥρα ("hour", "period of time") in the magical papyri, to designate one twenty-fourth of a day.

106. G. Daressy, "Notes et remarques", *Recueil de travaux relatifs à la philologie et à l'archéologie égyptiennes*, vol. 23, 1901, p. 125-133 (see p. 126-127); *ibid.*, "L'Égypte céleste", *Bulletin de l'Institut français d'archéologie orientale*, vol. 12, 1916, p. 1-34, pl. 2. The disk was seen in Cairo by G. Daressy, who dated it to II CE, and subsequently disappeared before being identified by J. Quack in the Institut Français d'Archéologie Orientale in Cairo (A. von Lieven, "From Crocodile to Dragon", *op. cit.*, p. 127); another, more fragmentary depiction of the same scheme is known from the Bianchini planisphere, M. Vermaseren, *Mithriaca*, vol. II. *The Mithreum at Ponza*, Leiden, Brill, 1974, p. 17 and pl. 25. See also the *Corpus Hermeticum* III, *Excerptum* VI.2 = *D'Hermès. Extrait du discours à Tat*, where the zodiacal circle is said to be *zoophoros*, "bearing animals" (ζωοφόρου).

107. In one manuscript (Vaticanus gr. 1056, fol. 28v), the animals of the *dōdekaōros* are associated with different regions of the world, which may relate on the theory of the "climates" and, therefore, to the Greek system of fundamental qualities (heat, cold, humidity, dry); cf. F. Boll, *Sphaerae*, *op. cit.*, p. 296.

a multivalent system which arose from the transcultural encounter of Egyptian solar theology with the Babylonian-derived system of Graeco-Egyptian astrology.

The second scheme is more developed and lists not only the hourly forms of the god, but also the components of the world classified according to their nature:<sup>108</sup> plants, stones, birds, aquatic animals and terrestrial animals (table 1). The document is fragmentary, but each group seems to be understood as beings generated by the hourly forms of the god; the terms *sēmeia* and *parasēma* are employed alongside *morphai*, but it is not clear if these “signs” are the hourly forms or the components of the world. This “taxonomy” of creation is echoed in the *Cyranides*,<sup>109</sup> the later “grimoire” in which plants, stones, birds and aquatic animals are grouped under each letter of the Greek alphabet, letters that could function as 24 cosmic “elements” related to the 12 “elements” of heaven.<sup>110</sup> What is particularly interesting in the magical papyrus is that the taxonomy of creation is instead connected to the hourly forms of the Egyptian creator sun-god, using solar theology as an organising principle for knowledge about animals, and creating an idiosyncratic “bestiary”.

This cyclical progression, in its diurnal manifestation, could also be understood in Egyptian thought as the sun being born in the morning, reaching the height of its power around midday, and becoming old and dying in the evening, expressible by the simple tripartite description “Lotus-Lion-Ram” (*serpot-moui-sro*), a name which appears in several Greek and Demotic texts.<sup>111</sup> Here the lotus represents the sun rising from the waters of night, the lion the form of the burning disk of midday, and the ram the aged form of the setting sun.

Yet another series of forms could be related to the cardinal directions (table 2), with the sun’s forms in the north, east, south and west representing the universal reach of his power, and his worship in different forms in each part of Egypt or the world.<sup>112</sup> Similar multiple cardinal forms are attributed to Hermes in one text, with the different animals drawing on Hermes’ associations with both Thoth (ibis, baboon) and Anubis (the wolf).<sup>113</sup>

108. *PGM* III.494-611.

109. See *supra*, n. 5.

110. *PGM* XXXIX.18-20. “Elements” translates the Greek στοιχεῖα, which could refer to the letters of the alphabet, as well as the four classical elements (air, water, earth, fire). See H. G. Gundel, *Weltbild und Astrologie, op. cit.*, p. 55-56.

111. This name also appears in the Opet Temple of Karnak, North Hall (VIII), east wall, 1st register, 1st scene, 113.13 “Lotus-Lion-Ram is your (the sun god’s) name, that is, the young flood who appears in the horizon” (*srp.t-mʿj-sr rnk bʿhi pw wʿd jm.(j) ʿh.t.*; II BCE), as well as in Late Period and Graeco-Roman copies of the Book of the Dead (formula 162); see C. Leitz (ed.), *Lexikon der ägyptischen Götter und Götterbezeichnungen*, vol. 6, Leuven, Uitgeverij Peeters, 2002, vol. 6, p. 430 for a full list of occurrences, and for a discussion see Y. Koenig, “Des ‘trigrammes panthéistes’ ramessides aux gemmes magiques de l’Antiquité tardive. Le cas d’Abraxas, continuité et rupture”, *Bulletin de l’Institut français d’archéologie orientale*, vol. 109, 2009, p. 315-317.

112. For a fuller discussion of these passages, see S. H. Aufrère, “Dieux et génies léonins égyptiens à appendice caudal élapiforme. Mythe et magie à propos de Toutou-Totoès”, in this volume.

113. *PGM* VIII.1-63; the inclusion of a serpent as a form of Hermes-Thoth/Anubis is less easily explicable; J. Bergman (in H.-D. Betz [ed.], *Greek Magical Papyri, op. cit.*, p. 145, n. 4) suggests that there is a reference here to Wadjet, the cobra goddess of the Nile Delta, but it is not clear why this goddess would be a form of Hermes. More likely perhaps is the synthesis of Hermes-Anubis

Table 1. Two hourly bestiaries of the sun-god

Hour	PGM III.494-611 (forms and signs)				PGM IV.1596-1715 (cf. PGM XXXVIII.1-26; <i>dōdekaōros</i> )
	Form	Bird	“In the sea”	“On earth”	
1	monkey	[lost]		[lost]	cat
2	unicorn (or rhinoceros)	<i>halouchakon</i> <sup>a</sup>		mongoose	dog
3	cat	parrot		frog	serpent
4	bull	turtledove		bull	scarab
5	lion	[lost]		crocodile	donkey
6	donkey		jellyfish <sup>b</sup> (?)	coot <sup>c</sup>	lion
7	crayfish	[lost]		cat	goat
8	[lost]	[lost]		hippopotamus	bull
9	ibis	[lost]		chameleon	falcon
10	[lost]	[lost]		[lost]	baboon
11	[lost]	[lost]		[lost]	ibis
12	[lost]	[lost]		[lost]	crocodile

a. The identification of this bird is unclear, and it does not seem to be mentioned in any other surviving text.

b. The word used is ὕελος, which literally means “glass”. The meaning “jellyfish” is apparently unparalleled, but is suggested in the translation in H.-D. Betz (ed.), *Greek Magical Papyri, op. cit.*, p. 32, and seems reasonable given the context, if uncertain.

c. The presence of a bird here is unexpected and relies on a textual emendation. See S. H. Aufrère, “Le rituel de cueillette des herbes médicinales du magicien égyptien traditionnel d’après le Papyrus magique de Paris”, in Id. (ed.), *Encyclopédie religieuse de l’Univers végétal. Croyances phyto-religieuses de l’Égypte ancienne*, vol. 2, Montpellier, Université Paul Valéry-Montpellier III, 2001, p. 331-362, who suggests “white-faced cow” ([βοῦν λευ]κομέτωπον) on p. 353, following Preisendanz; compare E. Suarez della Torre, “Magical Hermes: Remarks on the recipe of the ‘Little Beggar’ (PGM IV, 2373-2440)”, *MHNH*, vol. 11, 2011, p. 123-144, who argues for coot; cf. n. 179.

---

with the Agathodaimon serpent, attested in depictions of the god as a partially serpentine deity; see A. Majewska, “Statuette of a Snake-legged Anubis in the National Museum, Warsaw”, *Études et Travaux*, vol. 25, 2012, p. 214-224.

Table 2. Cardinal forms of the sun-god and Hermes

	North	South	East	West
Sun god ( <i>PGM</i> II.64-183)	Infant seated on lotus	Sacred falcon	Winged serpent	Crocodile with tail of snake
Sun god ( <i>PGM</i> XII.1-95) <sup>a</sup>	–	Winged serpent	–	–
Hermes ( <i>PGM</i> VIII. 1-63)	Serpent	Wolf	Ibis	Dog-faced baboon

a. The crocodile and the infant on the lotus are mentioned in this text, but without an explicit link to the cardinal points.

Like the sun, the moon was also believed to have multiple *sēmeia* and *sumbola* (table 3), but while the sun's cycle was based on the twelve hours, the moon's drew upon the twenty-eight days of the lunar cycle – from new to waxing and full moon, then waning to new moon once again.<sup>114</sup> Like the sun's forms, these lists draw upon a wide range of Greek and Egyptian lunar symbols, linked to deities such as Hekate, Isis, and Thoth-Hermes, but also draw upon solar animals, presumably reflecting the idea that the moon's light was borrowed from the sun, so that the lesser light was in some ways a symbol of the greater. The speaking of these transcultural *sumbola* would have therefore provided the fullest possible picture of the moon goddess.

Table 3. Monthly symbols of the moon-goddess

	PGM VII.756-794		PGM VII.756-794
1	cow	15	baboon
2	vulture	16	cat
3	bull	17	lion
4	beetle	18	leopard
5	falcon	19	shrew
6	crab	20	deer
7	dog	21	multiform
8	wolf	22	virgin
9	serpent/dragon ( <i>drakōn</i> )	23	torch
10	horse	24	lightning
11	goat/chimaera <sup>a</sup>	25	garland
12	asp ( <i>thermouthis</i> )	26	herald's wand
13	she-goat <sup>b</sup>	27	child
14	he-goat <sup>c</sup>	28	key

a. Χίμαιρα, l. 781. – b. Αἴξ, l. 782. – c. Τράγος, l. 782.

114. S. Weinstock, "Lunar Mansions", art. cit., p. 48-69.

Further texts contain hymns listing the forms of the solar, lunar and other gods without linking them to particular schemes of cycles or directions, and indeed the ubiquity of such lists demands explanation. On one hand, they are a manifestation of the encyclopaedic nature of magical texts,<sup>115</sup> an attempt to describe every detail and eventuality. But it is likely that there is also a deeper purpose: the forms were not arbitrary, but as manifestations or symbols of the god they revealed something important about the deity's fundamental nature in the same way as the god's secret names. Just as the ritualist might claim in spells "I know your name", they may also say "I know your forms":<sup>116</sup> listing the animal forms of the god, like speaking their name(s), revealed a knowledge of the deity which both exercised a compulsive force, and demonstrated the ritualist's right to call upon these powers. The encyclopaedic and transcultural nature of the lists gives the deities power on a cosmic scale, according them status as creator or ruler over the whole world, and depicting them according to a transcultural, and thus potentially universal, ritual knowledge.

These examples should demonstrate both the importance of the links between gods and animals, and the polyvalency of these links; many animals were "over-signified", linked to multiple deities with multiple associations – the bull (Gr. *tauros*; Eg. *ko*) could be solar,<sup>117</sup> as an animal sacred to several Egyptian sun-gods, but also lunar, with its moon-shaped horns and its role as the bearer of the Greek moon-goddess's chariot.<sup>118</sup> To some extent this is a consequence of the cross-cultural synthesis we have already seen, characteristic both of the magical material and the period in general – gods were increasingly understood as aspects of one another or of a single underlying reality. But alongside this polyvalency we can see an apparent ambivalence. If we take the snake, its associations may seem contradictory<sup>119</sup> – at once solar, lunar, and a hostile enemy of the gods. But to some extent this impression disappears when

---

115. On this see R. Gordon, "What's in a List? Listing in Greek and Graeco-Roman Malign Magical Texts", in D. R. Jordan, H. Montgomery, and E. Thomassen (ed.), *The World of Ancient Magic*, Bergen, Norwegian Institute at Athens, 1999, p. 239-277.

116. See, for example, *PGM* III.499-500, 623-625; *PGM* IV.2252-2254; *PGM* VII.1023; *PGM* VIII.8-9, 12-13, 20, 49.

117. *PGM* III.509, 511; *PGM* IV.1677; *PGM* XXXVIII.28; cf. the reference to the god Amun as the great bull (*p<sup>3</sup> k<sup>3</sup> [wr]*); *PDM* xiv.250) and "this black bull" (*p<sup>3</sup>y k<sup>3</sup> km*).

118. The moon-goddess may be either described as bull-eyed, bull-voiced, bull-horned, bull-eyed, or bull-shaped, or else as riding upon a chariot pulled by bulls, upon bulls themselves: *PGM* IV.2549-2550, 2614-2615, 2790, 2802, 2808, 2810, 2832, 2808-2809; *PGM* VII.756-794. The goddess Selene/Mene is called 'bull-shaped' in Nonnus' *Dionysiaca* (ταυροφυής, 5.72; 23.309, less directly in ἄμοιος ἄζυγι ταύρω, 36.345), and more often bull-faced (κάρηνον ταυροφυής, 17.234ff) or bull-horned (γίγαντος ὀμόκρατος, *Dionysiaca* 1.220-221; compare ταυρόκερος, in *Orphic Hymn* 9.2), and often as riding in a chariot pulled by bulls (for example *Dionysiaca* 2.406, 7.246-247). The epithet bull-eyed (ταυροῦπις) is also applied to Mene by Nonnus (*Dionysiaca* 11.185; cf. its use as an epithet of Hera in a fragment of Euphorion [*Supplementum Hellenisticum*, fr. 429 col. 1, l. 7] and of Isis in P. Oxy. XI 1380 l.107), while the similar "cow-eyed" (βοῦπις) is applied to a wider range of goddesses – Hera (for example *Iliad* 1.551, 568; 4.50; 8.471; 14.159, etc.), Artemis (Bacchylides, *Epinicia* 11.99), and Selene (Nonnus, *Dionysiaca* 17.240, 32.95). Compare *PGM* IV.2121, 2305-2306; *PGM* VII.780 where the moon goddess is associated with the cow.

119. A wide range of terms are used for "snakes" in Greek, Coptic and Demotic; these include δράκαινα (*PGM* IV.2301-2302, *PGM* LXX.10-11), δράκων (*PGM* I.145-146; *PGM* XII.204,

we see the snake not as a single mass of contradictions, but as a super-set containing several individual beings or types.

As a symbol of the primordial creator god, sometimes known as the “good-daimon” (*agathodaimon*) in Greek, or “Fate” (*[p]šai*) in Egyptian,<sup>120</sup> the serpent was a solar symbol, but in the context of hymns to the moon, it should probably be understood as a symbol of Hekate.<sup>121</sup> The “invisible” or “eternal” serpent who appears as a being which gods must destroy, eat, or fight against, is still a different snake, probably Apep-Apophis, the enemy of the sun-god in Egyptian underworld texts.<sup>122</sup> Yet another particular serpent, the Pythian Serpent (*pythios drakōn*), appears in several texts; some of these are prayers which make reference to the Greek myth in which this serpent was slain by Apollo at the site where he was to found his main oracular temple at Delphi,<sup>123</sup> and other texts prescribe the creation of images depicting her beside Apollo as a way to invoke this oracular power in divination spells.<sup>124</sup> Similarly, she appears in a spell containing a creation myth in which the creator god makes a hissing sound, causing the Pythian Serpent to appear, shaking the earth and terrifying her creator; she herself is credited with foreknowledge of all things,<sup>125</sup> and we may note that oracular spirits who spoke through possessed mediums could be called “pythons” in the early centuries CE.<sup>126</sup> Thus behind the English concept “snake” we find multiple, distinct beings, each of which had its own associations and significance.

---

275), θερμουθις (*PGM VII.782*), ὄφις (*PGM II.111-112; PGM III.703; PGM IV.1325, 1638*), *re.t* (*PDM xiv.258*), *hf* (*PDM xii.12, PDM xiv.258, PDM Suppl. 68*), *syt/ctt* (*PGM III.670; PDM xiv.397*).

120. J. Quaegebeur, *Le dieu égyptien Shai dans la religion et l'onomastique*, Louvain, Leuven University Press, 1975; the solar creator-god takes the form of a serpent in *PGM II.112-114, PGM IV.939, 1637-1643, 1655-1657, 2382-2385, 2427-2433, PGM XII.87-89, PDM xiv.253-257, 395-410, PGM XXXVIII.1-26*.

121. The lunar goddess, called variously Selene, Mene, Hekate, Artemis, and Persephone, is associated with the serpent in several ways; she may be said to be “girded with serpents” (*PGM IV.1404-1405, 2682-2683, 2864*; cf. *PGM XXIII.25-40*, an interpolated fragment of the *Odyssey* in which Odysseus speaks an invocation to Ablanatho, who is described in the same way), to have the serpent as a symbol (*PGM IV.939, 2301-2302; PGM VII.781, 782; PGM LXX.8-12*), to be a “bull-serpent” (ταυροδράκαινα; *PGM IV.2614-2615*), to have rows of serpents down her back (*PGM IV.2805-2806*), the scales of serpents (*PGM IV.2862-2863*), snakes as hair (*PGM IV.2800-2802, 2863*), or to be accompanied by serpents (*SM 42.4*).

122. The “unseen serpent” or “ever-living snake” is mentioned in *PGM IV.190-191, PGM IV.1323-1330, PGM VII.300, 366*, as a being which the deity (probably Seth-Typhon) swallows or puts to sleep. Compare *PGM IV.2779-2781*, in which the moon goddess is credited with holding in check the “great serpent” (δράκων μέγας), and *PGM XIII.261-265*, a spell for killing snakes, in which the snake adjured “stay, for you are Apophis” (στῆθι, ὅτι σὺ εἶ ὁ Ἄφουφις). For the interpretation of the unseen or undying serpent as Apophis, see H.-D. Betz, *Greek Magical Papyri, op. cit.*, p. 332; while the role of this serpent would seem to agree with that of Apep, the epithets are apparently without parallel in earlier sources, so that the association is open to question. A “serpent of eternity” (*hf n d.t*) is mentioned in *PDM xiv.245-246*, but this seems to be a positive creature, associated with the invoked god.

123. Apollo is invoked with the epithets of “slayer of Python” (Πυθολετόκτοπε, Πυθολέτης) in *PGM III.234, PGM VI.33*.

124. *PGM XIII.102-111, 659-670*.

125. *PGM XIII.471-563*.

126. *Acts 16.16*, Plutarch, *De Defectu* 414E, Hesychius, *Lexicon s. v.*; see also the oracular snake-god Glycon in Lucian, *Alexander*; D. Ogden, *Drakon: Dragon Myth and Serpent Cult in the Greek and Roman Worlds*, Oxford, Oxford University Press, 2013, p. 153-157, 325-330, 340-341, 355-356.



Fig. 3. A lion-headed deity on a magical gem  
(Staatliche Museen zu Berlin, Ägyptisches Museum inv. 9864 = CBd-221).

### *Images of animals, images of gods*

The examples of links between animals and deities considered thus far have for the most part been mentions of myths and symbols in spoken prayers, but the gods are often depicted in partly (therianthropomorphic) or wholly (theriomorphic) animal shape as part of magical rituals. These depictions, most often of animal-headed humans,<sup>127</sup> had long been a common feature of Egyptian religious iconography, but the examples we find in these texts are often particularly experimental and symbolic, describing gods with the attributes of multiple animals and several heads. While such complex therianthropomorphic depictions do appear in Egyptian magico-religious material from the New Kingdom onwards, particularly close parallels can be found in the corpus of “magical gems” from the Roman world, and although these cannot in most cases be securely dated, or their places of origin verified, many are likely contemporary with the Graeco-Egyptian magical texts.<sup>128</sup> Like the surviving gems, the depictions in the magical papyri are usually to be carved or drawn onto stones, metal,

127. See also *PDM* xii.21-49, in which the invoked deity is described as “he whose face is as the face of a falcon”.

128. On these stones, see C. Bonner, *Studies in Magical Amulets. Chiefly Graeco-Egyptian*, University of Michigan, Ann Arbor, 1950; S. Michel, *Die Magischen Gemmen. Zu Bildern und Zauberformeln auf geschnittenen Steinen der Antike und Neuzeit*, Berlin, Akademie Verlag, 2004; N. Adams and C. Entwistle (ed.), “*Gems of Heaven.*” *Recent Research on Engraved Gemstones in Late Antiquity c. AD 200-600*, London, British Museum, 2011; Á. Nagy, “*Daktylios pharmakites. Magical Healing Gems and Rings in the Graeco-Roman World*”, in I. Csepregi and C. Burnett (ed.), *Ritual Healing. Magic, Ritual and Medical Therapy from Antiquity until the Early Modern Period*, Florence, Sismel, Edizioni del Galluzzo, 2012, p. 71-106; Id., “*Engineering Ancient Amulets: Magical Gems of the Roman Imperial Period*”, in D. Boschung and J. N. Bremmer (ed.), *The Materiality of Magic*, Paderborn, Wilhelm Fink, 2015, p. 205-240.

wood, parchment or papyrus, and worn during rituals, to provide protection and a link to the deities they depict.

Particularly common in both gems and manuscripts is the lion-headed god, symbolic of the power of the sun, and apparently named “Helioros” (Helios-Horus) in one magical text,<sup>129</sup> while several Egyptian gods are depicted or described in their usual forms – Anubis with the head of a canine,<sup>130</sup> Seth with the head of a donkey,<sup>131</sup> Thoth with the head of an ibis.<sup>132</sup> The more complex depictions include beings with multiple heads, the tails of birds or mammals, and various crowns, and staffs.<sup>133</sup> These depictions probably draw upon a common iconography of polymorphic deities which developed in Egypt in the early centuries of the 1st millennium BCE, which often piled the heads and body-parts of animals upon the form of the dwarf-god Bes. This deity, often, though not uncontroversially, understood as the *biou* of the supreme god Amun-Re, and perhaps called the “nine-formed one” (*enneamorphos*), is often accompanied by a surrounding ouroboros serpent, and seems to be a protective deity, with the various animal attributes symbolising his wide-ranging powers.<sup>134</sup> But therianthropomorphism is not limited to Egyptian deities; notably, the moon-goddess is often described in magical and literary texts as bull-eyed or bull-horned, and takes on a part-animal form in her identity as Hekate, described in two texts as a three-headed maiden, with one human-head, one cow- or goat-head, and one dog-head.<sup>135</sup> While depictions of Hekate as three-bodied were common in Greek culture, earlier examples are, without apparent exception, human-headed, so that this represents an innovation, or at least a rare attestation.

At other times, the rituals prescribe the creation of three-dimensional figurines of deities; these serve as divine icons in the same way as similar figures might in private religious practices, focuses for interaction with the usually unseen divine. We have already mentioned the creation of a figurine of a baboon wearing the helmet of Hermes;

---

129. *PGM* I.42-195; cf. G. Németh, “Helioros”, *Sylloge Epigraphica Barcinonensis*, vol. 10, 2012, p. 423-435. References to lion-headed deities may also be found in *PGM* IV.2006-2125, *PGM* XII.153-160, *PDM* Suppl. 7-18.

130. Anubis is referred to as a dog-headed being in *PDM* xii.147-164 (*PGM* XII.480-495); *PDM* xiv.528-553; cf. *PDM* xiv.627-635, where the ritualist greets Anubis “in the nome of the dog-faces”.

131. A donkey-headed being, almost certainly Seth, is mentioned in *PDM* xii.62-75 (*PGM* XII.449-452), *PDM* Ixi.1-30.

132. See *PGM* XII.144-152, where the ritualist is to draw an ibis-faced Hermes on a strip of linen using quail blood.

133. Instances of such deities include *PGM* XII.121-143, where the ritualist is to draw an image of the deity with various attributes, including the horns of a bull and the tail of a bird; *PDM* xii.6-20, in which the ritualist is to inscribe on a white stone on a ring a figure of a divinity with the head of a falcon, a snake’s tail, and other attributes lost due to damage to the papyrus; *PDM* xiv.239-295, in which the secret form (*sšt*) of the god is described as a ram-faced scarab with the tail of a falcon, wearing two panther skins; *PDM* xiv.627-635, in which the ritualist describes the god as having a face like the face of a falcon of byssus, the tail of a snake, and the back of a serpent (?).

134. J. F. Quack, “The So-called Pantheos: On Polymorphic Deities in Late Egyptian Religion”, in H. Györy (ed.), *Aegyptus et Pannonia III. Acta Symposii Anno 2004*, Budapest, Karcagi Nyomda, 2006, p. 175-190.

135. See *PGM* IV.2006-2125, 2785-2890.

this figure, made out of wood, has a basket on his back, and a request for a successful workshop is placed inside this, and incense burnt to it.<sup>136</sup> Another ritual, for the same purpose, makes use of a different figure, a mummiform being made of wax with three heads – one of a falcon, one of a baboon, and one of an ibis – and given a magnet as a heart.<sup>137</sup> While its form is stranger, and it is invoked as Aion, a name associated with the god of time and eternity, its heads, and its consecration three days into the new moon, suggest that it also represents the lunar god Hermes-Thoth. If these two figures are treated as cult statues, a more unusual use is made of three divine figures in the early stages of a ritual to summon a deity; in order to establish a relationship with the deities ruling over the hours, three figures are made with flour-dough, one bull-faced, one goat-faced, one ram-faced, each standing on the celestial pole and holding a flail.<sup>138</sup> These figures are censed with the incense of the seven planets, before being eaten while invoking over them the gods of hours and of the weeks (planets). These figures probably represent three decans, stellar deities subordinate to the planets, who take various therianthropomorphic forms in Graeco-Egyptian astronomy.<sup>139</sup> By consuming their images, the ritualist takes on part of their power, and creates a link between the gods and the practitioner.

While the links between gods and animals often lead to the depiction of animals to draw down divine power, several manuscripts prescribe the use of animal figurines themselves as ritual agents, beings capable of exercising supernatural force; while deities might be invoked to give them agency or to control them, they are not themselves the bodies of gods. In this way animal figures were one of a number of material objects, alongside human figures, divine statues, two-dimensional images, and the dead bodies of humans and animals, which could serve this function in Graeco-Egyptian magic. Such figurines, often made of wax, and usually in the form of animals, had a long history in Egypt: in the story of *Cheops and the Magicians*, attested in the Middle Kingdom, a lector-priest creates a small wax crocodile, has it cast into a lake, where it grows to full crocodile-size, and seizes his wife's lover; a Roman-period text describes a similar story, in which another priest creates a wax cat and falcon, who chase each other through the streets into the house of another priest who has apparently stolen money from the protagonist.<sup>140</sup>

---

136. See *PGM VIII.1-64*; cf. C. A. Faraone, "Cultural Plurality in Magical Recipes for Oracular and Protective Statues," in L. M. Bortolani, W. Furley, S. Nagel, and J. F. Quack (ed.), *Cultural Plurality in Ancient Magical Texts and Practices*, Tübingen, Mohr Siebeck, 2019, p. 171-88 for this recipe and similar examples of the use of statues.

137. *PGM IV.3125-3171*.

138. *PGM XIII.29-37*.

139. H. G. Gundel, *Weltbild und Astrologie*, *op. cit.*, p. 29.

140. *King Cheops and the Magicians* (P. Westcar; XV-XVII Dyn.) 2.21-4.10 for the crocodile figurine; for a fuller discussion of this text, see F. Naether, "Representations of the Crocodile in Cult Practices in Egyptian Literary Texts", in this volume. For the wax cat and falcon, see P. Petese A+B 3.14-30 (copy in P. Petese Saqq. 1-3, both published in K. Ryholt, *The Story of Petese Son of Petetum and Seventy Other Good and Bad Stories* (P. Petese), Copenhagen, Museum Tusulanum Press, 1999). Compare *Setna I* 3.27-29, in which a priest creates a boat and rowers out of wax; *Setna II* 4.15-22, 5.9-23, in which a Nubian magician and an Egyptian priest create litters and attendants out of wax to kidnap and beat one another's rulers; *Alexander Romance* (recensio a sive vetusta) 1.1, in which King Nectanebo creates figures of men and boats from clay in order to control distant battles.

In a recipe reminiscent of these stories, one ritual in the Graeco-Egyptian manuscripts describes the creation of a wax hippopotamus, wrapped in white linen, who will send in a dream a message burned in a lamp before it,<sup>141</sup> while another describes the creation of a dog from wax and other ingredients, which is addressed as Cerberus, and which summons a woman as part of a love spell, barking when she approaches, or hissing to indicate she will not come.<sup>142</sup> Yet another spell, for attracting fortune, is spoken over an ape and a fish made of wax; this practice of speaking spells over images has a long pedigree in Pharaonic practice.<sup>143</sup> It may be notable that in each of these cases, while the animals act as agents, their agency does not imply autonomous movement, although it may involve some type of animation (the wax dog is capable of making sounds). This is a clear difference from the literary texts, in which fantastical outcomes could be described which were probably beyond what any magical practitioner would have expected.

In still other rituals, animal figurines are used as stand-ins for victims, and here they parallel rituals known from Egypt and elsewhere in the Roman world in which the bodies of animals could be used as an alternative to anthropomorphic effigies, and at times the choice of species and the ritual formula reveal the ritual use of analogy. Such practices might use young, defenceless animals, a defencelessness to which specific reference is made to in one particular curse tablet, to be applied to the victim.<sup>144</sup> We might see a parallel to this in a love spell in which a figure of a “little dog” is made of dough or wax – the diminutive may suggest a puppy, although the reference may rather be to its small size. The little dog-figure has the eyes of a still-living bat (Gr. *nukteris*; Eg. *kink/lo*) placed in its head, before they are pierced with needles and the figure is buried in a vessel at a crossroads with other materia.<sup>145</sup> The use of nails in erotic and curse rituals is known from many other texts, and even surviving figurines, in which nails driven into bodies – usually female – serve to represent the intrusion of the ritual’s power, with the location of the needles indicating the kind of control desired. In this case the needles in the eyes, reaching into the brain, serve to control the woman’s sleep and her mind – like a night-roaming bat, she is to be unable to sleep without her would-be lover, and be unable to think of anything but him. Another text, reminiscent of the Middle Kingdom story of the cuckolded priest, describes the creation of a crocodile from clay, which is placed in a lead coffin with the name of the user’s wife and a spell commanding her fidelity.<sup>146</sup> The crocodile is ambivalent here – unlike the helpless puppy it is a powerful animal, and its placement in a lead-coffin parallels the placement of male and female figures, representing lovers, in such boxes in other erotic spells.<sup>147</sup>

141. *PGM* XIII.308-318.

142. *PGM* IV.1872-1927.

143. *PDM* xiv.309-334.

144. A. Audollent, *Defixionum Tabellae, op. cit.*, n<sup>os</sup> 111-112, p. 167-171 (Aquitaine, II CE). For fuller formulations of these ideas, see C. A. Faraone, “The *Echenêis*-Fish and Magic”, in this volume, and Id. “Animals-Effigies in Ancient Greek Cursing Rituals: The Role of Gender, Age and Natural Behavior in their Selection”, *Mediterraneo Antico*, vol. 22, 2019, p. 289-315.

145. *PDM* IV.2943-2966.

146. *PGM* XIII.320-326.

147. See C. A. Faraone, “Binding and Burying the Forces of Evil: The Defensive Use of ‘Voodoo Dolls’ in Ancient Greece”, *Classical Antiquity*, vol. 10.2, 1991, p. 165-205, 207-220; G. Németh, “Curses in the Box”, *MHNH*, vol. 13, 2013, p. 201-207.

Perhaps the crocodile, a creature which might seize a human, drag it into the water and hold it fast, was understood as standing in for the man, holding on tight to his wife to prevent her from straying. The use of these animals and animal figures seems to depend for its effectiveness upon performative analogies, unrelated to the relationship of the animal to the divine, and so offers a clear contrast to sacrifices or the images of the gods.

### *The animal body in ritual practice*

#### Prohibitions against animal flesh

While mythological and symbolic allusions to animals played an important role in Graeco-Egyptian magic, the bodies of animals played an equally important role. But before we consider the presence of animal bodies, it is worth considering their absence.

This absence is highlighted when practitioners are instructed to avoid eating animals, either in the form of injunctions to avoid all meat<sup>148</sup> – referred to as *enhaimon* (“food with blood”) or *empsukhon* (“food with a soul”) – or to avoid specific meats: pork<sup>149</sup> or fish.<sup>150</sup> These specific instructions are usually found in rituals for invoking the gods, and in one such text, which summons a divine being (*aggelos*) to serve as a familiar spirit (*paredros*), we are told that the *aggelos* is capable of bringing any type of food except fish and pork.<sup>151</sup> These instructions are part of a larger discourse of purity within the magical papyri; as in many public cults, purity was a requirement to participate in rituals, and these alimentary instructions are found alongside instructions to avoid sex, and to be physically clean, as well as many more general instructions to be “pure”, which presumably implied the avoidance of (certain) meat(s) and sexual activity.<sup>152</sup> The reasons for these instructions are no doubt complex; pork was a favoured food in the Roman world, and common in Egypt, but taboo in certain traditions, most famously in the Jewish religion.<sup>153</sup> Such a taboo is probably at work in an exorcistic text which draws heavily on Biblical tropes, mentioning the appearance of the god of Israel to Jacob, the ten plagues of Egypt, Solomon, “Jesus, god of the Hebrews”, and even ending with the injunction “keep yourself pure, for this formula is Hebraic”.<sup>154</sup> But pork was also the subject of taboos in Egyptian religion, due to its association with the god Seth, and it seems that by the Roman period priests, or at least certain priests, were expected to abstain from it,<sup>155</sup> and the same seems to have

148. *PGM* IV.52-85, 475-829.

149. *PGM* IV.3079-3080.

150. *PGM* I.290.

151. *PGM* I.104-106.

152. References to ritual purity may be found in *PGM* I.262-347; *PGM* II.64-184; *PGM* IV.850-929; *PGM* VII. 359-369, 664-685; *PDM* xiv.150-231, 459-475, 475-488, 489-515, 875-885; *PGM* LXXVII.1-24.

153. For a discussion of the awareness of Jewish dietary laws, in particular the taboo on pig meat, among Greek and Latin writers, see J. D. Rosenblum, *The Jewish Dietary Laws in the Ancient World*, New York, Cambridge University Press, 2016, p. 30-45.

154. *PGM* IV.3083-3084: φύλασσε καθαρός· ὁ γὰρ λόγος ἐστὶν Ἑβραϊκός.

155. There seems to have been a partial taboo on pork among the nobility, priesthood and royalty in Egypt from at least the Ramesside period (*ca.* XI BCE), but pork was nonetheless consumed

been true of fish.<sup>156</sup> The dietary abstinence of the priests (accompanied by physical and sexual purity) was a *topos* both in temple literature, and in descriptions of the Egyptian clergy by Greek writers, and Chaeremon, an Egyptian priest who embraced Stoic philosophy in the early Roman period, strengthened this picture by depicting the priests as living lives of pure contemplation, avoiding all animal food.<sup>157</sup> The idea that animal food was in some way polluting for the human body and spirit would have already developed among certain philosophers in the Roman Mediterranean,<sup>158</sup> and vegetarian and semi-vegetarian diets were embraced by many religious and philosophical traditions, from Jewish and Christian ascetics to the Manichaean elect, as well as Epicurean, Neoplatonist and Pythagorean philosophers.<sup>159</sup> The avoidance of meat in general, and pork and fish in particular, in the magical papyri thus drew upon a complex of overlapping culturally present ideas about food, and in particular on Jewish and Egyptian dietary laws, viewed through transcultural representations of the purity of powerful non-Greek ritualists.

#### Animal sacrifices

We have already seen an example in which the consumption of images of gods was believed to empower the practitioner, and in the same way, consuming animals or parts of animals could allow them to ingest the animal's power. We have also seen that the idea that particular animals had particular natural virtues which could be manipulated in rituals is marginal in the magical papyri, but there was one virtue that all

---

by other classes throughout Egyptian history. In the Graeco-Roman period, however, abstention from pork seems to have become a marker of Egyptian identity, particularly among the priesthood, perhaps due to interaction with Greek, and even more so, Roman, cuisine, in which pork was more prominent than it had been in Egypt. See Y. Volokhine, *Le porc en Égypte ancienne. Mythes et histoire à l'origine des interdits alimentaires*, Liège, Presses Universitaires de Liège, 2014; W. J. Darby, P. Ghalioungui and L. Grivetti, *Food: The Gift of Osiris*, vol. 1, London, Academic Press, 1977, p. 171-198; H. M. Hecker, "A Zooarchaeological Inquiry into Pork Consumption in Egypt from Prehistoric to New Kingdom Times", *Journal of the American Research Center in Egypt*, vol. 19, 1982, p. 59-71; H. Brunner, "Enthalttsamkeit", in W. Helck and E. Otto (ed.), *Lexikon der Ägyptologie*, vol. 1, Wiesbaden, Otto Harrassowitz, 1975, p. 1229-1231.

156. As with pig meat, the evidence for taboos against fish is mixed; there is some evidence that certain types of fish may have been considered impure as early as the New Kingdom, and generalised taboos against the eating of fish seem to have existed by the Late Period. Greek and Latin writers often record taboos against the eating of sacred fish in particular areas, and taboos against specific fish as well as fish in general are noted in lists of purity requirements for temple staff; for discussions see P. Montet, "Le Fruit Défendu", *Kemi*, vol. 11, 1950, p. 85-116; I. Gamer-Wallert, *Fische und Fischkulte im alten Ägypten*, Wiesbaden, Otto Harrassowitz, 1970, p. 75-85.

157. Chaeremon, fr. 10.7 (= Porphyry, *De abstinentia* 4.7.1-15) in P. W. van der Horst, *Chaeremon*, *op. cit.*, p. 19.

158. J. B. Rives, "The Theology of Animal Sacrifice in the Ancient Greek World. Origins and Developments", in J. W. Knust and Z. Várhelyi (ed.), *Ancient Mediterranean Sacrifice*, Oxford, Oxford University Press, 2011, p. 187-202.

159. On vegetarianism in the ancient world, see U. Dierauer, *Tier und Mensch im Denken der Antike. Studien zur Tierpsychologie, Anthropologie und Ethik*, Amsterdam, B. R. Grüner B. V., 1977, p. 286-290; M. Beer, *Taste or Taboo: Dietary Choices in Antiquity*, Totnes, Prospect Books, 2009, p. 28-43; J. D. Be Duhn, *The Manichaean Body in Discipline and Ritual*, Baltimore and London, John Hopkins University Press, 2000, p. 126-162.

animals did possess – their life, that is, more precisely, their animation, sentience, and agency. This was sometimes conceived in terms of *pneuma*, which was in the Stoic and Neoplatonic views a subtle material substance which was present in both breath and blood, among other manifestations.<sup>160</sup> In one text seven birds are strangled before a statue of Eros but not burned; on the second day one chick is strangled and burned, and on the third day the ritualist himself consumes a chick on the altar.<sup>161</sup> This text is unusually explicit about the purpose of the ritual; as the birds are strangled they are to be held to the statue, so that their breath (*pneuma*) passes into it. The purpose seems to be to animate the statue using the life-force of the chicks. The bodies are then to be burned as a sacrifice on the altar, and finally the consumption of a single chick by the ritualist gives him some of this power, and creates a link to the god who has been nourished on the same substance. This same rationale recurs in a ritual in which the practitioner drinks a mixture of milk and honey in which a falcon has been divinised through drowning, in which it is explicitly stated that “there will be something divine in your heart” after consuming it.<sup>162</sup>

The idea that the purpose of sacrifice was to feed the god with *pneuma* recurs in one of the few other cases where the purpose is explicit, another spell for summoning a god to appear. The ritualist is to have two white roosters and two pigeons ready,<sup>163</sup> killing and burning one of each, and leaving the other of each set alive, so that the god may consume the *pneuma* of whichever he prefers, and sacrifice another if he so wishes.<sup>164</sup> This text also provides another indication of the purpose of sacrifice – cypress or balsam wood is to be used to provide a pleasant odour.<sup>165</sup>

This second concept, that the gods found the smell of sacrifice pleasant, was a common one in the discourse on sacrifice, arguably the key ritual act in most of the religious traditions of the ancient Mediterranean. Sacrifice – or more broadly, offering – was an important means of communication between the human and the divine, allowing both parties to interact with one another in a prescribed fashion. There were many logics of sacrifice, which might operate simultaneously in the same context: as we have seen, one was the idea that the offering nourished the deity, or, more broadly, honoured them;<sup>166</sup> by contrast, the Neoplatonist Iamblichus argued that offerings

160. The word πνεῦμα in the Greek magical papyri, as in other texts of the period, may also take on the meaning “spirit” (in the sense of an incorporeal being), a usage probably influenced by the Hebrew *ruah* (רוח, “wind, breath, spirit”); such usage is probably reflected in passages such as *PGM* I.97; *PGM* III.8; *PGM* XIII.280, etc. On these usages, see E. De Witt Burton, *Spirit, Soul, and Flesh*, Chicago, University of Chicago Press, 1918, p. 13-24, 53-68, 80-84, 123-126, 141-146, 173-182; D. B. Martin, *The Corinthian Body*, New Haven, Yale University Press, 1995, p. 3-25.

161. *PGM* XII.14-95.

162. *PGM* I.20-21: ἔσται τι ἔνθεον ἐν τῇ σῆ καρδίᾳ. On this ritual, see K. Dosoo, “Living Death and Deading Life”, in this volume.

163. The text is not entirely explicit on the number of pigeons; the most reasonable interpretation seems to be that there are two.

164. *PGM* XIII.343-646.

165. *PGM* XIII.364-365: ἵνα καὶ χωρὶς τῶν θυμιαμάτων ἡ θυσία ὀσμὴν παρέχη.

166. On Greek sacrifice(s), see, among many others, F. Graf, “Caloric Codes: Ancient Greek Animal Sacrifice,” in J. Kindt (ed.), *Animals in Ancient Greek Religion*, London, Routledge, 2020, p. 171-196; M. Detienne and J.-P. Vernant (ed.), *La cuisine du sacrifice en pays grec*, Paris, Gallimard, 1979; W. Burkert, *Homo Necans. The Anthropology of Ancient Greek Sacrificial Ritual*

purified the human soul by allowing the divine to elevate the human from matter just as they undid the bonds of the matter burned in the fire.<sup>167</sup> In the Egyptian tradition, the logics of nourishing and honouring the god co-existed alongside the idea of sacrifice as destruction, as the sacrificed animal represented the enemy of the god punished in an apotropaic act of dissolution.<sup>168</sup>

Offerings could take many forms; the usual public sacrifices offered in the Greek city-states involved the killing of cattle, sometimes by their hundreds, with part of the animal burned for the gods, and the remainder cooked and eaten by the worshippers.<sup>169</sup> Sacrifices are also part of the lives of heroes in epic poetry, offering a poetic ideal, which is referenced in a hymn in one magical roll which asks Helios for help in gratitude for the “fat thighs of bulls or goats” the ritualist claims to have burned for him.<sup>170</sup> Alongside this type of sacrifice was the “holocaust”, in which sacrificed animals were burned whole, often associated with chthonic deities and the dead,<sup>171</sup> but also attested in the case of small animals – piglets and chickens – in domestic contexts in Greece and Rome.<sup>172</sup> Likewise, while Egyptian temple ritual seems to have centred on food offerings and destructive sacrifices, burnt offerings are attested in Egypt both as a private act of piety and in Egyptian temples.<sup>173</sup>

Minimally, an offering could consist simply of the burning of frankincense on a small altar, and this type of offering, often with mixed incenses, is the most common type in the magical papyri.<sup>174</sup> But animal sacrifice is also found, and the Greek texts use the standard vocabulary for offerings, demonstrating that the users of the magical

---

*and Myth*, transl. P. Bing, Berkeley, University of California Press, 1983; S. Georgoudi, R. Koch Piettre and F. Schmidt (ed.), *La cuisine et l'autel. Les sacrifices en questions dans les sociétés de la Méditerranée ancienne*, Turnhout, Brepols, 2005; F. S. Naiden, *Smoke Signals for the Gods. Ancient Greek Sacrifice from the Archaic through Roman Periods*, Oxford, Oxford University Press, 2013.

167. Iamblichus, *On the Mysteries* V.11-12.

168. C. Bouanich, “Mise à mort rituelle de l’animal, offrande carnée dans le temple égyptien”, in S. Georgoudi, R. Koch Piettre, and F. Schmidt (ed.), *La cuisine et l'autel. Les sacrifices en questions dans les sociétés de la Méditerranée ancienne*, Turnhout, Brepols, 2005, p. 149-162; D. Frankfurter, “Egyptian Religion and the Problem of the Category ‘Sacrifice’”, in J. W. Knust and Z. Várhelyi (ed.), *Ancient Mediterranean Sacrifice*, Oxford, Oxford University Press, 2011, p. 75-93; K. Eaton, *Ancient Egyptian Temple Ritual: Performance, Pattern, and Practice*, New York, Routledge, 2013, p. 19, 175-178.

169. See n. 166 *supra*.

170. PGM VI.36-38. For the origin of this phrase, see Homer, *Iliad* 1.40.

171. S. Eitrem, *Opferritus und Voropfer der Griechen und Römer*, Kristiania, Jacob Dybwad, 1915, p. 474-475; S. Scullion, “Olympian and Chthonian”, *Classical Antiquity*, vol. 13.1, 1994, p. 75-119; *ibid.*, “Heroic and Chthonian Sacrifice: New Evidence from Selinous”, *Zeitschrift für Papyrologie und Epigraphik*, vol. 132, 2000, p. 163-171.

172. Remains of a sacrificed chicken have been found in, for example, Pompei (M.-O. Laforge, *La religion privée à Pompéi*, Naples, Centre Jean Bérard, 2009, p. 139).

173. J. Quaegebeur, “L’autel-à-feu et l’abattoir en Égypte tardive”, in Id. (ed.), *Ritual and Sacrifice in the Ancient Near East, Proceedings of the International Conference organized by the Katholieke Universiteit Leuven from the 17th to the 20th of April 1991*, Louvain, Peeters, 1993, p. 329-353; A. Eggebrecht, “Brandopfer”, in W. Helck and E. Otto (ed.), *Lexikon der Ägyptologie*, vol. 1, Wiesbaden, Otto Harrassowitz, 1975, p. 848b-850b.

174. A. Zografou, *Papyrus Magiques Grecs*, *op. cit.*, p. 35-54.

texts considered themselves as participating in private religious rituals, rather than in deviant, counter-religious acts.<sup>175</sup>

The animals used in these sacrifices are – with the single exception of one example of a pig<sup>176</sup> – birds: small, relatively inexpensive creatures which were easily controlled, and this agrees with the usual practice in private offerings. In most cases these are roosters, in every case specified as white, with the implied or express instructions that they be “unblemished”, part of the larger idea that sacrificial animals should be physically perfect. They are regularly offered to the sun, and less often to the moon,<sup>177</sup> perhaps in recognition of their solar associations, although the prominence of solar deities in the magical rituals, and of roosters in sacrifice, makes it difficult to be certain of this point.

Two rituals describe the use of a “wild white-headed animal” (*leukometōpos*),<sup>178</sup> and while the English translation of the *Greek Magical Papyri* wavers between understanding it as a donkey, a falcon and a cow, it is almost certainly the Eurasian coot (*Fulica atra*), a small, white-headed bird.<sup>179</sup> The fact that it is specified as wild may indicate that its sacrifice to statues is a destructive act, as the enemies of the gods in Egyptian ritual are usually the animals of the wild desert, such as antelopes, reptiles, and scorpions, which represent the forces outside of and opposed to civilisation. In one text, however, the coot is described as one of the forms of the sun-god,<sup>180</sup> and the tasting of the inner parts (*splagkhna*) in another suggests a Greek model of sacrifice.<sup>181</sup>

In all of these cases, it appears that there is nothing clearly “magical” about these sacrifices: the magical papyri follow the usual rituals of honouring the gods in antique religions, even if they do occasionally display some apparent innovations.<sup>182</sup> But other variations on the theme of “offering” animals are less orthodox.

---

175. The terms used in the Greek texts are θύω and ἐπιθύω (and related noun formations) to refer to burnt offerings, while libations are covered by the verbs σπένδω, ἐπισπένδω, and more rarely ἐπιχέω and ῥαίνω (“sprinkle”), the standard terms of Hellenic cultic terminology. By contrast, the Demotic texts tend to describe the act of placing (*dy*) the objects on the fire to refer to burnt offerings, without using any technical vocabulary. This is notable, since cultic language was available to refer to offerings – *by(.t)*, *gll*, *swšy* (“[burnt] offering”), *wdn*, *kbh* (“libations”). These words appear very rarely in the surviving Demotic magical papyri – *wdn* twice (*PDM* xiv.433; *PDM* Suppl.98), and *by(.t)* (*PDM* Suppl. 114) and *kbh* (*PDM* Suppl. 115) once each.

176. *SM* 75.8-11.

177. Sacrifices of roosters may be found in *PGM* II.1-64 (to Selene and Helios); *PGM* II.64-183 (to Helios); *PGM* III.633-731 (to Helios); *PGM* IV.2145-2240, 2359-2372 (to Hermes); *PGM* XIII.1-343, 343-645, 646-734.

178. *PGM* IV.2395-2398, 3148-3149.

179. E. Suarez della Torre, “Magical Hermes”, art. cit.; W. G. Arnott, *Birds in the Ancient World from A to Z*, London and New York, Routledge, 2007, p. 133.

180. *PGM* III.516. See *supra*, table 1.

181. *PGM* IV.2395-2398.

182. S. I. Johnston, “Le sacrifice dans les papyrus magiques”, art. cit.; *contra* F. Graf, “Prayer in Magic and Religious Ritual”, art. cit., p. 188-213.

Offering animal parts: towards a magical cuisine?<sup>183</sup>

While most sacrifices were intended to honour and create a link to the gods, a smaller set, called *epanagkoi*, or “compulsive (offerings)” were intended to force recalcitrant powers to submit to the ritualist’s demands. The most elaborate of these is described in a ritual intended to cause the sun-god to appear in a dream, in which the ritualist burns the brain of a black ram, the little nail of its right foot, and the brain of an ibis before the moon on subsequent nights if the god does not appear, finally throwing an image of the god into the burning furnace of a bathhouse – or simply suspending it over a flame if this is considered too extreme.<sup>184</sup> In a similar text, the same use is made of the hair or knucklebone of a wolf, and the nails of a goat or sheep (again with the image of the god as a final sanction),<sup>185</sup> while another text prescribes pills made of shrew, the fat of goats, the dung of baboons, ibis egg, river crab, and moon-beetle, stamped with the image of Hekate,<sup>186</sup> and yet another the brains of a vulture.<sup>187</sup>

One explanation is that these are unpleasant offerings – and in the ritual addressed to Selene-Hekate the burning of this “hateful incense” is blamed on the spell’s victim,<sup>188</sup>

---

183. We use here the term “cuisine” following the famous work of M. Detienne and J.-P. Vernant, *La cuisine du sacrifice*, *op. cit.*

184. *PGM* II.1-64; note that this ritual is in fact a continuation of that in *PGM* VI.1-47, as the two are pieces of a single roll; see E. Chronopolou, “*PGM* VI: A Lost Part of *PGM* II”, *Symbolae Osloenses*, vol. 91, 2017, p. 1-8.

185. *PGM* II.64-183.

186. *PGM* IV.2683-2693.

187. *PGM* IV.2894-2896.

188. This recipe belongs to a complex series of related rituals addressed to the moon-goddess, primarily love spells, but with a variety of additional uses. These are *PGM* IV.2441-2621, 2622-2707, 2708-2784, 2785-2890; the fact that all four follow after one another in the codex suggests that the compiler understood them to be a group (L. R. Lidonnici, “Compositional Patterns in *PGM* IV”, *art. cit.*, p. 173-174), and they reproduce parallel content. The nature of the offerings in these texts is very complex; the instructions for two of them (*PGM* IV.2441-2621, 2708-2784) contain one set of offerings, while two provide instructions for “beneficent offerings” (ἐπίθυμα ἀγαθοποιῶν; *PGM* IV.2622-2707, 2785-2890), and alternative “compulsive” (ἀναγκαστικόν; *PGM* IV.2622-2707) or “maleficent” (κακοποιῶν; *PGM* IV.2785-2890) offerings, the former apparently to compel the deity to obey, the latter perhaps for harmful magic such as curses. In addition, two of the texts (*PGM* IV.2441-2621, 2622-2707) include a “slander spell” or “compulsive formula” (ἐπάναγκος λόγος, *PGM* IV.2574) intended to compel or persuade the deity to act by accusing the victim of having insulted her. These slander spells also contain lists of “terrible” (δεινόν, *PGM* IV.2575) or “hateful” (ἐχθρόν, *PGM* IV.2643-2644) incenses which the victim is accused of burning. The problem in understanding these lists of offerings is the considerable overlap between them; the “beneficial” incenses are primarily composed of fragrant resins and plants (frankincense, myrrh, myrtle, storax, cinnamon, sage), as well as honey, wine, and a fruit pit, while the coercive or maleficent offerings include more animal materia – goat fat, baboon blood, river crab, ibis egg, as well as garlic and vinegar (sour wine). The offerings without any noted valence contain a combination of these, as well as unique items such as baboon dung, crocus, galingale, and cumin. Finally, the offerings which the victim is accused of offering include material from all the other categories and another set of unique items – onion, menstrual blood, filth (μύσαγμα, l. 2756), salt, mastic, sour dirty water (λύματα ὄξυροῦντα, l. 2579-2580), and deer horn. It is unclear how to interpret this material synthetically, or even if a synthetic reading is the right approach. On the one hand, we might suggest that there are two kinds of offerings – licit and illicit offerings, with the licit offerings being the beneficent ones, and the illicit ones being represented by the coercive and maleficent offerings, as well as those

in particular brains and dung could be considered foul and foul-smelling objects.<sup>189</sup> It may be worth mentioning an alternative explanation, however: dung is commonly burned as fuel in agricultural societies, and brains were (and still are) commonly eaten in many Mediterranean cultures,<sup>190</sup> so that it is not clear that either would have been clearly considered “disgusting” by their users. We do have clear examples of fumigations intended to be unpleasant in medical recipes for the “wandering womb”, in which substances were placed at the mouth of the vagina to force a womb which was believed to have caused illness by descending to retreat to its place, but rather than brains or toenails these typically consist of burnt hair or wool and bitumen.<sup>191</sup>

By contrast the materia burned in these offerings seems to be linked to the deities – the wolf, black ram, shrew, ibis, moon-beetle, baboon, and so on are all associated with the deity being threatened, and the burning of an image of the god – whether drawn, or stamped on a pill – is an even clearer example of this. The idea of suspending the image of the god over fire has a parallel in a text in which a horned-beetle is hung over a fire; a being appears demanding that it be released, and will obey the ritualist’s command if this is carried out.<sup>192</sup> It seems that the fire here could be understood as a compulsive force, which is used, or threatened to be used, against the deity through the medium of the animals or images to which they are connected. Specifically, the use of materia from the toes may be linked to the fact that the god is expected to “move”, and so the compulsion is applied to their feet, while the brain is the seat of thought, and so burning it commands the thoughts of the deity. There are parallels here in love spells where the victim is to burn in their body with desire, with the flames of compulsion

---

described in the accusations; these include the symbols of the goddess (the goat, the deer, the crab, the scarabs, the shrew), so that burning them would be a sacrilege which the victim is accused of. On this model, the simple “offerings” represent confused variants in which the licit and illicit offerings are made together. On the other hand, the fact that items from the beneficent offerings appear in the accusations tells us that the accusation must necessarily have been that the victim offered a mixture of licit and illicit substances. Since there are items unique to the accusations, including the most obviously negative items, filth and dirty water, it becomes harder to be certain that offering animals associated with the lunar goddess was necessarily seen as illicit. Their force might merely be (in certain circumstances) compulsive, while in the unmarked offerings they might simply serve to create a link to the goddess. For discussions of these complex passages, see F. Graf, “Prayer in Magic and Religious Ritual”, in C. A. Faraone and D. Obbink (eds.), *Magika Hiera: Ancient Greek Magic and Religion*, New York, Oxford University Press, 1991, p. 196; L. M. Bortolani, *Magical Hymns from Roman Egypt*, *op. cit.*, p. 303-306, and T. Galoppin, “Faire de la puissance”, *art. cit.*, who considers that the ingredients considered as inappropriate which make the sacrifice impious include those of animal (goat, deer, crab, scarab, shrew) origin; the same argument is found in A. Zografou, *Des dieux maniables. Hécate et Cronos dans les Papyrus magiques grecs*, Paris, Apolis Éditions, 2016, p. 74.

189. S. I. Johnston, “Sacrifice in the Greek Magical Papyri”, *art. cit.*, p. 350.

190. For references to the eating of brains in the ancient mediterranean, see, for example, Apicius, *On Cookery* 2.1.5, 2.5.1, 3.6.2, etc.; Cassius Dio, *Roman History* 64.2.3; S. Ikram, *Choice Cuts: Meat Production in Ancient Egypt*, Leuven, Peeters, 1995, p. 121.

191. C. A. Faraone, “Magical and Medical Approaches to the Wandering Womb in the Ancient Greek World”, *Classical Antiquity*, vol. 30.1, 2011, p. 6-7.

192. *PGM* IV.52-85.

linked to the fire used for the offering, and in particular texts the fire may be understood as being “below” the victim (that is, at her feet), or in the victim’s brain.<sup>193</sup>

The use of pills in the compulsive spell against Hekate highlights another idea, that of convenience. While we have seen that animals might at times be killed, and offered, to the gods, more often the offering might consist of incense, along with parts of the animals, with those parts presumably standing in for the whole. Often these are shaped into small pellets, which would allow offerings to be prepared in advance, and the usefulness of possibly expensive materia to be extended over several rituals.<sup>194</sup>

Too many body parts are used in rituals to list them all here; as Ogden observed of the “magi’s” use of the hyena,<sup>195</sup> it seems that practitioners were like butchers, stripping creatures down into dozens of cuts and using each one for specific purposes. In the magical papyri, we find the use of fat,<sup>196</sup> bones (skulls,<sup>197</sup> knucklebones,<sup>198</sup> teeth,<sup>199</sup> ribs<sup>200</sup>), blood,<sup>201</sup> organs (heart,<sup>202</sup> eyes,<sup>203</sup> tongue,<sup>204</sup> lungs<sup>205</sup>), skin,<sup>206</sup> hair,<sup>207</sup>

193. Compare *PGM* IV.1540-1543: “As I burn you up and you have power, so burn the brain of her whom I love, NN” (ὡς ἐγὼ σε κατακάω και δυνατή εἶ, οὕτω ἦς φιλω, τῆς δεῖνα, κατάκαυσσον τὸν ἐγκέφαλον); *PGM* LXI.16-17: “Become fire beneath her until she comes to me” (πῶρ ὑποκάτω αὐτῆς γενεῶ, ἄχρι οὗ ἔλθῃ πρὸς ἐμέ).

194. S. I. Johnston, “Sacrifice in the Greek Magical Papyri”, art. cit., p. 349.

195. D. Ogden, “Animal Magic”, art. cit., p. 296-299.

196. See the examples listed above at n. 60, 186.

197. See the example listed above at n. 99.

198. For example, *PGM* II.141-144, where the knucklebones of a wolf are burned in a compulsive procedure.

199. For example, *PGM* IV.2897-2900, where the tooth of a female donkey is worn as part of a love spell.

200. See *PGM* IV.3115-3118, where the rib of a young pig or castrated boar is used as a phylactery in an oracle calling upon Kronos; for the connection between Kronos and the boar see A. Mastrocinque, *Kronos, Shiva, and Asklepios: Studies in Magical Gems and Religions of the Roman Empire*, Philadelphia, American Philosophical Society, 2011, p. 24-28.

201. See, for example, *PGM* II.160-161, in which the blood of a goat is used to anoint the ritualist’s house before a dream oracle. See also the examples of donkey blood, listed in n. 99.

202. See *PGM* IV.3095-3096, which uses the heart of a catfish (σίλουρος) as an offering to Kronos; note that Preisendanz’s emendation to αἴλουρος, “cat”, is unnecessary; see M. Sicherl, *Die Tiere, op. cit.*, p. 257-258; see also the uses of the heart of a hoopoe listed in n. 221-224.

203. See, for example, *PGM* I.223, where the eye of an owl is used to make body paint in an invisibility ritual; eyes are often used as ingredients in these rituals since invisibility is often understood as operating through “blinding” the eyes of those who see the user; see R. L. Phillips III, *In Pursuit of Invisibility: Ritual Texts from Late Roman Egypt*, Durham, American Society of Papyrologists, 2009, p. 69-96.

204. See *PGM* V.172-212, in which the tongue of a frog is offered up in a thief catching ritual; *PGM* X.36-50, in which the tongue of a frog is trampled on to bring an individual into subjection.

205. *PGM* VII.181-182, in which instructions are given to eat a baked pig lung in order to be able to drink a lot without getting drunk.

206. See, for example, *PGM* III.703, where the slough of a snake is held during an invocation of the sun-god; *PDM* xiv.1003-1014, in which the skin of a deer is worn as part of an amulet against gout.

207. For example, *PGM* II.141-144, in which the hair of a wolf is burned in a compulsive procedure.

hooves,<sup>208</sup> whiskers,<sup>209</sup> feathers,<sup>210</sup> even placentas and umbilical cords,<sup>211</sup> as well as heads,<sup>212</sup> tails,<sup>213</sup> wings,<sup>214</sup> and secretions such as bile,<sup>215</sup> saliva,<sup>216</sup> nasal mucous,<sup>217</sup> eggs,<sup>218</sup> milk,<sup>219</sup> and excrement.<sup>220</sup> While these are sometimes burned in offerings, at other times they are used to anoint the body, worn as amulets, or used in more eccentric ways; to name only one recurrent item of materia, the heart of a hoopoe<sup>221</sup> is used twice in rituals for memory – once to anoint the lips,<sup>222</sup> once eaten with

---

208. For example, *PGM* VII.390-393, in which a formula is written on a horse's hoof to make a victory charm.

209. *PGM* III.124-128, in which the whiskers of a drowned cat are held as a phylactery in a ritual calling upon the sun god.

210. For example, *PGM* III.619-620, in which the ritualist wears a headband made from an ibis feather and a falcon feather; *PGM* IV.46-51, an initiation procedure in which the ritualist anoints his eyes using an ibis or falcon feather.

211. *PDM* xiv.1042-1045, in which part of a donkey placenta is used to anoint the penis in a love spell; *PGM* XXXVI.312-320, in which the umbilical cord of a firstborn ram that has not yet fallen to the ground is mixed with myrrh, and the mixture applied to a door while saying the formula to make it open.

212. For example, *PDM* xiv.78-79, in which a frog's head is placed on a brazier to compel the gods to speak during a vessel divination ritual.

213. For example, *PGM* VII.846-847, in which the ritualist wears a cat tail as a headband.

214. For example, *PGM* I.246, in which seven ibis wings are burned to produce the soot for ink.

215. For example, *PGM* VII.149-154, in which goat's bile and water is sprinkled in the house to keep bedbugs and fleas out.

216. *PDM* xiv.1046-1047, in which the foam from a stallion's mouth is used to anoint the penis in a love spell.

217. *PGM* XXXVI.320-332, in which the nasal mucous of a cow is worn as part of an amulet.

218. For example, *P. Oxy.* LXXXII.5304 col. 2 28-34, in which *kharaktēres* are written on a pigeon's egg which is then wrapped in a sheep's skin as part of a love spell.

219. For example, *PGM* II.20-21, where the milk of a donkey is used to purify a bed; cf. *PGM* XII.430, where "Kronos' spice" is given as the secret name of pig milk.

220. For example, *P. Oxy.* LXXXII.5304 verso, where the droppings of various birds are used in medical remedies.

221. The symbolic and religious associations of the hoopoe are unclear; D. W. Thompson (*Glossary of Greek Birds*, London, Oxford University Press, 1895, p. 54-57) claims that it had solar associations in Egypt, due to its ray-like crest, and its association in a fragment of Aeschylus with the κίρκοϛ (probably the Peregrine falcon sacred to Horus-Apollo). There seems to be little direct evidence of this in Egypt, although it often appears in artistic depictions (see P. F. Houlihan, *The Birds of Ancient Egypt*, Warminster, Aris & Philips Ltd., 1986, p. 118-120). That the hoopoe did have some religious associations is suggested by its inclusion in the Tanis Geographical Papyrus as a "divine animal" ("e ntr), and the existence of mummified specimens; see A. Colonna, "Θεοί and ιεροί: Some Remarks on Animal Cult in Ancient Egypt According to Classical and Egyptian Texts", in T. Lekov and E. Buzov (eds.), *Proceedings of the Fourth International Congress for Young Egyptologists. 25-27 September 2012*, Sofia, New Bulgarian University, 2014, p. 107, n. 1; D. Kessler and A. el H. Nur el-Din, "Tuna al-Gebel: Millions of Ibises and Other Animals", in S. Ikram (ed.), *Divine Creatures: Animal Mummies in Ancient Egypt*, Cairo, American University in Cairo Press, 2005, p. 154. Two surviving statuettes of Harpocrates holding hoopoes may strengthen the suggestion of a link to the solar deity; see L. Keimer, "Quelques remarques sur la huppe (*Upupa epops*) dans l'Égypte ancienne", *Bulletin de l'Institut français d'archéologie orientale*, vol. 30, 1930, p. 305-331.

222. *PGM* II.1-64.

honey<sup>223</sup> – and in yet another text placed in a sleeping woman’s vagina to make her talk in her sleep.<sup>224</sup>

### Life as an ingredient

We would like to finally return to one of the more disturbing ideas we have considered here, that the life of an animal was itself an ingredient which could be used in rituals.<sup>225</sup> We have already seen how life could be transferred, in the form of *pneuma*, to a divine statue or a human, and we have seen the eyes of a living bat placed into a figurine of a puppy, to transfer the bat’s nocturnal restlessness to the victim of a love spell. In other rituals we find a rooster cut open while still alive and a stone placed in its guts for three days to absorb its life-force, before being worn in a ring to bring good fortune,<sup>226</sup> and instructions to find a gecko living in a tomb, cut off its right leg, and wear it for fortune, allowing the lizard to escape alive.<sup>227</sup> In another spell a divine image and seven names are written on the wings of a bat, which is released to fly away, again to take sleep from a desired lover; the spell can be undone by washing the bat’s wings clean.<sup>228</sup> In this ritual, alongside the use of the bat’s nocturnal restlessness,

---

223. *PGM* III.424-466.

224. *PGM* VII.411-416. For discussions of other similar rituals from around the mediterranean, see M. Dickie, “The Learned Magician and the Collection and Transmission of Magical Lore”, in D. R. Jordan, H. Montgomery and E. Thomassen (ed.), *The World of Ancient Magic*, Bergen, Norwegian Institute at Athens, 1999, p. 183-184.

225. Alongside the examples listed in below, other examples of living animals used as elements in magical rituals may be found in *PDM* xiv.772-804, a love spell in which a living swallow and a living hoopoe have their heads chopped off at sunrise and their hearts removed, are anointed with donkey blood and the blood from a tick of a black cow, are dried in donkey skin, and then pounded before being mixed with wine and fed to the spell’s victim; *PDM* xiv.1182-1187, a love spell in which the hair of the victim and of a dead man are tied together and then bound to a falcon; *PGM* XCV.7-13, a recipe against epilepsy (?) which requires the use of a mole; *PGM* XCVII.1-6, probably a recipe to protect against or heal eye disease, in which the right eye of a lizard is to be gouged out, put in a goat skin, and worn on the left eye; *P.Oxy.* LXXXII.5304, col. ii 20-27 (TM 702429; III CE), a recipe, perhaps for the creation of an amulet, which requires a living chameleon. Compare, for example, Pliny, *Historia Naturalis* 32.29, which describes how a person with a cough may spit into mouth of a living frog to cure themselves of it, which may be compared to the similar Mesopotamian ritual described in J. Scurlock, “Animals in Ancient Mesopotamian Magic”, in this volume, and more generally the substitutionary rites described in A. Mouton, “Les procédés d’identification du substitut animal avec l’homme dans les textes rituels hittites”, in this volume.

226. *PGM* XII.270-350; cf. C. A. Faraone, “The Greek and Egyptian Traditions of Breathing Stones in the Recipes of the Greek Magical Papyri”, in T. Galoppin and C. Guillaume-Pey (ed.), *Ce que peuvent les pierres. Vie et puissance des matériaux lithiques entre rites et savoirs*, Liège, Presses universitaires de Liège, 2021, p. 31-48.

227. *PGM* VII.186-190.

228. *PGM* XII.376-396; cf. *PGM* VII.652-660, which also uses the bat wings as writing surface to induce insomnia. On this, see T. Galoppin, “Les *logoi* des pratiques ‘magiques’ dans l’Antiquité tardive. Puissance de la parole et innovations du langage”, in P. Hoffmann, A. Timotin (ed.), *Théories et pratiques de la prière à la fin de l’Antiquité*, Turnhout, Brepols, 2020, p. 135-137.

we may see an allusion to the “wing formation”, a common device in which magical words are drawn in triangles to indicate the waxing or waning of power.<sup>229</sup>

There seem to be several logics at work here. When a stone is placed in the innards of a dying rooster there is a recurrence of the idea of transfer, that the peculiar power that is life can be taken from an animal and placed in an object. But when a lizard has its leg cut off and it is left alive, it seems that something closer to harvesting is taking place. Just as we often find instructions for plants to be picked in specified ritual ways, the animal may be treated like a plant, and its limbs plucked like leaves or fruit.<sup>230</sup> A similar logic may lie behind some of the instructions to kill animals in specific ways, such as by drowning;<sup>231</sup> these are multiplied in other texts, such as those of the “magi” mentioned by Pliny, as well as in the *Cyranides* and later mediaeval handbooks.<sup>232</sup> Like a plant, the animal must be “harvested” in a specific way to ensure it is optimally useful for the ritual. In the final example, the animal’s life plays a more direct role as an ingredient in the ritual; while a dead bat would lie still as if sleeping, a living bat would flutter restlessly through the night, and thus deprive the spell’s victim of rest in the same way that a fire might burn her brain and guts.

### Conclusions

Here we have only been able to offer a glimpse of the kaleidoscope of patterns found in the Graeco-Egyptian magical texts; entire books could, and have been, dedicated to particular animals, or particular practices, such as sacrifice.

It is clear that animals played a central role in the cosmology within which the magical rituals took place, although their nature as animals, distinct from other entities in the world, such as plants, humans, stones, and gods, is not always emphasised; within both the Neoplatonic and Egyptian schemes, divinity pervaded the world, and could be accessed through animals (human and non-human), plants, and even inanimate matter in various ways. Animals, and parts of their bodies, are burned in offerings alongside plants and resins.

Unlike most plants and minerals, but like humans, however, animals, and their bodies, could function as ritual agents; wax, clay and flour could also serve this

---

229. On text formations in magic, see G. Bohak, *Ancient Jewish Magic: A History*, Cambridge, Cambridge University Press, 2008, p. 265-270; R. Gordon, “Shaping the Text: Innovation and Authority in Graeco-Egyptian Malign Magic”, in H. F. J. Horstmanshoff *et al.* (ed.), *Kykeon: Studies in Honour of H. S. Versnel*, Leiden, Brill, 2002, p. 85-90; D. Frankfurter, “The Magic of Writing and the Writing of Magic: The Power of the Word in Egyptian and Greek Traditions”, *Helios*, vol. 21.2, 1994, p. 199-205; F. Dornseiff, *Das Alphabet in Mystik und Magie*, Leipzig, Teubner, 1926, p. 63-67; A. Mastrocinque, “Les formations géométriques des mots dans la magie ancienne”, *Kernos*, vol. 21, 2008, p. 97-108; C. A. Faraone, *Vanishing Acts on Ancient Greek Amulets: from Oral Performance to Visual Design*, London, Institute of Classical Studies, University of London, 2012.

230. See A. Delatte, Herbarius. *Recherches sur le cérémonial usité chez les Anciens pour la cueillette des simples et des plantes magiques*, Bruxelles, Académie royale de Belgique, 1961, 3rd edition.

231. On drowning animals in the magical papyri, see K. Dosoo, “Living Death and Deading Life: Animal Mummies in Graeco-Egyptian Ritual”, in this volume.

232. See P. Watson “Animals in Magic”, art. cit., p. 127-165; S. Page, “Animals, Demons and Magic in Late Medieval Europe”, in this volume.

purpose, but only once they had taken on animal or human form. This suggests that animal forms were considered, by nature, potential recipients of supernatural power, and this is clear too from depictions and descriptions of gods who, though super-human, had shifting and often hybrid animal forms. While the multiplicity of these forms reminds us that the gods could not ultimately be restricted to the form of any single animal, the relationship was nonetheless meaningful; to “know” the animal forms of the sun or moon gods was a knowledge of their deep nature, parallel to a knowledge of their secret names, while the animal attributes of polymorphic deities expressed significant aspects of their power. These animal-divine relationships also suggest a sensitivity to the specificity of animals; not all snakes, for example, had the same associations – the significance of serpents depended upon their species and their links to the different divine powers.

The details of these relationships seem to be primarily drawn from the role of animals in the Egyptian religious tradition, both in terms of their functions in ritual acts and as representation of the divine. The magical prescriptions adapt these traditions, looking for the divinity of the animal in order to manifest divine power in human life. In this perspective, it is not exactly the natural, inherent power of an animal *species* that the “magician” most often looks for; instead he constructs ritual acts according to a “religious grammar”, through the configuration of the animal and the divine. There are some exceptions to this: these include the analogising use of animals as effigies, and the manipulation of the natural, singular and marvellous powers displayed by some species, such as the unsleeping bat, the paralysing electric fish, the sterile mule,<sup>233</sup> or the bewitching hyena – to mention only a few. The articulation between these two forms of animal power – ritual and natural – is one of the most interesting features of the magical texts – and perhaps a clue which may help us understand the construction of “magic” from the fusion of Egyptian and non-Egyptian ritual patterns. We should not forget that the magical texts from Egypt are the product of an intensely multicultural milieu: animals stand at the crossroads of different cultural conceptions of nature and the divine.

---

233. See, for example, *PGM* XXIIa.11-14, *PGM* XXXVI.320-332, and *PGM* LXIII.26-28, where the hair, skin and/or earwax of a mule are used to create contraceptive amulets. See also F. Maltomini, “Due contraccettivi magici da non usare”, in L. Di Vasto (ed.), *Vincenzo Di Benedetto: il filologo e la fatica della conoscenza*, Castrovillari, Edizioni AICC Castrovillari, 2017, p. 183-188.

## BIBLIOGRAPHY

- ADAMS, Noël and ENTWISTLE, Chris (ed.), *“Gems of Heaven.” Recent Research on Engraved Gemstones in Late Antiquity c. AD 200-600*, London, British Museum, 2011.
- ARNOTT, W. Geoffrey, *Birds in the Ancient World from A to Z*, London and New York, Routledge, 2007.
- ASSMANN, Jan, *Egyptian Solar Religion in the New Kingdom: Re, Amun and the crisis of Polytheism*, Anthony Alcock (transl.), London and New York, Kegan Paul International, 1995.
- , “Magic and Theology in Ancient Egypt”, in Peter Schäfer and Hans G. Kippenberg (eds.), *Envisioning Magic. A Princeton Seminar and Symposium*, Leiden, Brill, 1997, p. 1-18.
- , “Magie und Ritual im Alten Ägypten”, in Jan Assmann and Harald Strohm (ed.), *Magie und Religion*, Munich, Wilhelm Fink, 2010, p. 23-43.
- ATALLAH, Hashem (transl.), HOLMQUEST, Geylan (co-trans. vol. 2) and KIESEL, William (ed.), *Picatrix, Ghayat al-Hakim: The Goal of the Wise*, Seattle, Ouroboros Press, 2002-2008, 2 vols.
- AUDOLLENT, Auguste, *Defixionum Tabellae: Quotquot innotuerunt tam in Graecis orientis quam in totius occidentis partibus praeter Atticas in corpore inscriptionum Atticarum editas*, Paris, Fontemoing, 1904.
- AUFRÈRE, Sydney H., “Le rituel de cueillette des herbes médicinales du magicien égyptien traditionnel d’après le Papyrus magique de Paris”, in Id. (ed.), *Encyclopédie religieuse de l’Univers végétal. Croyances phytoreligieuses de l’Égypte ancienne*, Montpellier, Université Paul Valéry-Montpellier III, 2001, vol. 2, p. 331-362.
- BAGNALL, Roger S., “Combat ou vide: Christianisme et paganisme dans l’Égypte romaine tardive”, *Ktema*, vol. 13, 1988, p. 285-96.
- BAKHOUCHE, Béatrice, FAUQUIER, Frédéric and PÉREZ-JEAN, Brigitte, *Picatrix. Un traité de magie médiéval*, Turnhout, Brepols, 2003.
- BE DUHN, Jason David, *The Manichaean Body in Discipline and Ritual*, Baltimore and London, John Hopkins University Press, 2000.
- BEER, Michael, *Taste or Taboo: Dietary Choices in Antiquity*, Totnes, Prospect Books, 2009.
- BETTINI, Maurizio, “*Interpretatio Romana: Category or Conjecture?*”, in Corinne Bonnet, Vinciane Pirenne-Delforge and Gabriella Pironti (ed.), *Dieux des Grecs, dieux des Romains. Panthéons en dialogue à travers l’histoire et l’historiographie*, Brussels, Institut historique belge de Rome, 2016, p. 17-35.
- BETZ, Hans Dieter (ed.), *The Greek Magical Papyri in Translation*, Chicago, University of Chicago Press, 1992 (original edition 1986).
- BEVILACQUA, Gabriella, *Scrittura e magia. Un repertorio di oggetti iscritti della magia greco-romana*, Rome, Edizioni Quasar, 2010.
- BIDEZ, Joseph and CUMONT, Franz, *Les mages hellénisés*, vol. 2, Paris, Les Belles Lettres, 1938.

- BODSON, Liliane, *Τερα ζῴια. Contribution à l'étude de la place de l'animal dans la religion grecque ancienne*, Bruxelles, Académie royale de Belgique, 1978.
- BOHAK, Gideon, "Review of *Religion in Roman Egypt: Assimilation and Resistance*, by David Frankfurter", *The Journal of Religion*, vol. 80.3, 2000, p. 546-548.
- , *Ancient Jewish Magic: A History*, Cambridge, Cambridge University Press, 2008.
- , "The Diffusion of the Greco-Egyptian Magical Tradition in Late Antiquity", in Ian Rutherford (ed.), *Greco-Egyptian Interactions: Literature, Translation, and Culture, 500 BCE-300 CE*, Oxford, Oxford University Press, 2016, p. 357-381.
- BOLL, Franz, *Sphaerae: Neue griechische Texte und Untersuchungen zur Geschichte der Sternbilder*, Leipzig, Teubner, 1903.
- , BEZOLD, Carl and GUNDEL, Hans Georg, *Sternglaube und Sterndeutung: Die Geschichte und das Wesen der Astrologie*, Darmstadt, Wissenschaftliche Buchgesellschaft, 1966.
- BONNER, Campbell, *Studies in Magical Amulets. Chiefly Graeco-Egyptian*, University of Michigan, Ann Arbor, 1950.
- BORTOLANI, Ljuba Merlina, *Magical Hymns from Roman Egypt: A Study of Greek and Egyptian Traditions of Divinity*, Cambridge, Cambridge University Press, 2016.
- BOUANICH, Catherine, "Mise à mort rituelle de l'animal, offrande carnée dans le temple égyptien", in Stella Georgoudi, Renée Koch Piettre and Francis Schmidt (ed.), *La cuisine et l'autel. Les sacrifices en questions dans les sociétés de la Méditerranée ancienne*, Turnhout, Brepols, 2005, p. 149-162.
- BOUSTAN, Ra'anana and SANZO, Joseph E., "Christian Magicians, Jewish Magical Idioms, and the Shared Magical Culture of Late Antiquity", *Harvard Theological Review*, vol. 110.2, 2017, p. 217-240.
- BRADLEY, Keith, "Law, Magic, and Culture in the 'Apologia' of Apuleius", *Phoenix*, vol. 51.2, 1997, p. 203-223.
- BRASHEAR, William M., "The Greek Magical Papyri: An Introduction and Survey; Annotated Bibliography (1928-1994)", in Wolfgang Haase (ed.), *Aufstieg und Niedergang der römischen Welt*, vol. 2.18.5, Berlin, Walter de Gruyter & Co., 1995, p. 3380-3684.
- BRESCIANI, Edda, PERNIGOTTI, Sergio, MALTOMINI, Franco and MARRASSINI, Paolo, "Nuovi papiri magici in copto, greco e aramaico", *Studi classici e orientali*, vol. 29, 1973, p. 16-130.
- BRUNNER, Helmut, "Enthaltsamkeit", in Wolfgang Helck and Eberhard Otto (ed.), *Lexikon der Ägyptologie*, Wiesbaden, Otto Harrassowitz, 1975, vol. 1, p. 1229-1231.
- BURKERT, Walter, *Homo Necans. The Anthropology of Ancient Greek Sacrificial Ritual and Myth*, Peter Bing (transl.), Berkeley, University of California Press, 1983.
- BURTON, Ernest de Witt, *Spirit, Soul, and Flesh*, Chicago, University of Chicago Press, 1918.
- CHRONOPOLOU, Eleni, "PGM VI: A Lost Part of PGM II", *Symbolae Osloenses*, vol. 91, 2017, p. 1-8.

- ČERNÝ, Jaroslav, *Coptic Etymological Dictionary*, Cambridge, Cambridge University Press, 1976.
- COLONNA, Angelo, “Θεοί and ἱεποί: Some Remarks on Animal Cult in Ancient Egypt According to Classical and Egyptian Texts”, in Teodor Lekov and Emil Buzov (ed.), *Proceedings of the Fourth International Congress for Young Egyptologists. 25-27 September 2012*, Sofia, New Bulgarian University, 2014, p. 102-111.
- COPENHAVER, Brian P., “A Tale of Two Fishes: Magical Objects in Natural History from Antiquity Through the Scientific Revolution”, *Journal of the History of Ideas*, vol. 52.3, 1991, p. 373-98.
- CRUM, Walter E., *A Coptic Dictionary*, Oxford, Clarendon Press, 1939.
- CRUZ-URIBE, Eugene, “Sth<sup>3</sup> Pḥty: Seth, God of Power and Might”, *Journal of the American Research Center in Egypt*, vol. 45, 2009, p. 201-226.
- CUMONT, Franz, “Zodiacus”, in Edmont Saglio, Edmont Pottier and Georges Lafaye (ed.), *Dictionnaire des Antiquités grecques et romaines*, vol. 5, col. 1046-1062, Paris, Hachette & Co., 1917.
- , *Astrologie*, Danny Praet and Béatrice Bakhouché (ed.), Turnhout, Brepols, 2014.
- CUNHA, Gerald R. et al., “Development of the External Genitalia: Perspectives from the Spotted Hyena (*Crocuta crocuta*)”, *Differentiation*, vol. 87, 2014, p. 4-22.
- CURBERA, Jaime B., “Maternal Lineage in Greek Magical Texts”, in David R. Jordan, Hugo Montgomery and Einar Thomassen (ed.), *The World of Ancient Magic*, Bergen, The Norwegian Institute at Athens, 1999, p. 195-203.
- DANIEL, Robert W. and MALTOMINI, Franco, *Supplementum Magicum* (2 vols.), Opladen, Westdeutscher Verlag, 1989-1991.
- DARBY, William J., GHALIOUNGUI, Paul and GRIVETTI, Louis, *Food: The Gift of Osiris*, London, Academic Press, 1977, vol. 1.
- DARESSY, Georges, “Notes et remarques”, *Recueil de travaux relatifs à la philologie et à l’archéologie égyptiennes*, vol. 23, 1901, p. 125-133.
- , “L’Égypte céleste”, *Bulletin de l’Institut français d’archéologie orientale*, vol. 12, 1916, p. 1-34.
- DAVIDSON, James N., “Don’t Try This at Home: Pliny’s Salpe, Salpe’s Paignia and Magic”, *Classical Quarterly*, vol. 45, 1995, p. 590-592.
- DEBRU, Armelle, “Les enseignements de la torpille dans la médecine antique”, in Isabelle Boehm and Pascal Luccioni (ed.), *Le médecin initié par l’animal. Animaux et médecine dans l’Antiquité grecque et latine*, Lyon, Maison de l’Orient et de la Méditerranée-Jean Pouilloux, 2008, p. 39-47.
- DELATTE, Armand, Herbarius. *Recherches sur le cérémonial usité chez les Anciens pour la cueillette des simples et des plantes magiques*, Bruxelles, Académie royale de Belgique, 1961, 3rd edition.
- DETIENNE, Marcel and VERNANT, Jean-Pierre (eds.), *La cuisine du sacrifice en pays grec*, Paris, Gallimard, 1979.
- DICKIE, Matthew W., “The Learned Magician and the Collection and Transmission of Magical Lore”, in David R. Jordan, Hugo Montgomery and Einar Thomassen

- (ed.), *The World of Ancient Magic*, Bergen, Norwegian Institute at Athens, 1999, p. 163-193.
- , *Magic and Magicians in the Greco-Roman World*, London, Routledge, 2001.
- DIELEMAN, Jacco, “Ein spätägyptisches magisches Handbuch. Eine neue PDM oder PGM?”, in F. Hoffman and H. J. Thissen (ed.), *Res severa verum gaudium. Festschrift für Karl-Theodor Zauzich zum 65. Geburtstag an 8. Juni 2004*, Leuven, Peeters, 2004, p. 121-128.
- , *Priests, Tongues, and Rites: the London-Leiden Magical Manuscripts and Translation in Egyptian Ritual (100-300 CE)*, Leiden, Brill, 2005.
- , “The Greco-Egyptian Magical Papyri”, in David Frankfurter (ed.), *Guide to the Study of Ancient Magic*, Leiden, Brill, 2019, p. 283-321.
- DIERAUER, Urs, *Tier und Mensch im Denken der Antike. Studien zur Tierpsychologie, Anthropologie und Ethik*, Amsterdam, B. R. Grüner B. V., 1977.
- DORNSEIFF, Franz, *Das Alphabet in Mystik und Magie*, Leipzig, Teubner, 1926.
- DOSOO, Korshi, “A History of the Theban Magical Library”, *Bulletin of the American Society of Papyrologists*, vol. 53, 2016, p. 251-274.
- , “Magical Discourses, Ritual Collections: Cultural Trends and Private Interests in Egyptian Handbooks and Archives”, in Tomasz Derda, Adam Łajtar, and Jakub Urbanik (ed.), *Proceedings of the 27th International Congress of Papyrology*, Journal of Juristic Papyrology, Suppl. 28, Warsaw, 2016, vol. 2, p. 699-716.
- , “Circe’s Ram: Animals in Greek Magic”, in Julia Kindt (ed.), *Animals in Ancient Greek Religion*, London, Routledge, 2020, p. 260-288.
- and TORALLAS TOVAR, Sofía, “The Anatomy of the Magical Archive”, in Christopher A. Faraone and Sofia Torallas Tovar (ed.), *The Greco-Egyptian Magical Formularies: Libraries, Books and Recipes* (forthcoming).
- EATON, Katherine, *Ancient Egyptian Temple Ritual: Performance, Pattern, and Practice*, New York, Routledge, 2013.
- EGGEBRECHT, Arne, “Brandopfer”, in Wolfgang Helck and Eberhard Otto (ed.), *Lexikon der Ägyptologie*, Wiesbaden, Otto Harrassowitz, 1975, vol. 1, p. 848b-850b.
- EITREM, Samson, *Opferritus und Voropfer der Griechen und Römer*, Kristiania, Jacob Dybwad, 1915.
- , “Sonnenkäfer und Falke in der synkretistischen Magie”, in Theodor Klauser and Adolf Rucker (ed.), *Pisciculi: Studien zur Religion und Kultur des Altertums*, Munster, Aschendorff, 1939, p. 94-101.
- ESCOLANO-POVEDA, Marina, *The Egyptian Priests of the Graeco-Roman Period. An Analysis on the Basis of the Egyptian and Graeco-Roman Literary and Paraliterary Sources*, Wiesbaden, Harrassowitz, 2020.
- EVANS-PRITCHARD, Edward E., *Witchcraft, Oracles and Magic among the Azande*, Oxford, Oxford University Press, 1937 (re-issued 1977).
- FARAONE, Christopher A., “Binding and Burying the Forces of Evil: The Defensive Use of ‘Voodoo Dolls’ in Ancient Greece”, *Classical Antiquity*, vol. 10.2, 1991, p. 165-205, 207-220.

- , “Handbooks and Anthologies: The Collection of Greek and Egyptian Incantations in Late Hellenistic Egypt”, *Archiv für Religionsgeschichte*, vol. 2.2, 2000, p. 195-214.
- , “The Ethnic Origins of a Roman-Era Philtrokatadesmos (PGM IV 296-434)”, in Marvin Meyer and Paul Mirecki (ed.), *Magic and Ritual in the Ancient World*, Leiden, Brill, 2001, p. 319-343.
- , “The Collapse of Celestial and Chthonic Realms in a Late Antique ‘Apollonian Invocation’ (PGM I 262–347)”, in Ra’anan Boustan and Annette Y. Reed (ed.), *Heavenly Realms and Earthly Realities in Late Antique Religions*, Cambridge, Cambridge University Press, 2004, p. 213-232.
- , “Magical and Medical Approaches to the Wandering Womb in the Ancient Greek World”, *Classical Antiquity*, vol. 30.1, 2011, p. 1-32.
- , *Vanishing Acts on Ancient Greek Amulets: from Oral Performance to Visual Design*, London, Institute of Classical Studies, University of London, 2012.
- , “Cultural Plurality in Magical Recipes for Oracular and Protective Statues,” in Ljuba Merlina Bortolani, William Furley, Svenja Nagel and Joachim Friedrich Quack (ed.), *Cultural Plurality in Ancient Magical Texts and Practices*, Tübingen, Mohr Siebeck, 2019, p. 171-188.
- , “Animals-Effigies in Ancient Greek Cursing Rituals: The Role of Gender, Age and Natural Behavior in their Selection”, *Mediterraneo Antico*, vol. 22, 2019, p. 289-315.
- , “The Greek and Egyptian Traditions of Breathing Stones in the Recipes of the Greek Magical Papyri”, in Thomas Galoppin and Cécile Guillaume-Pey (ed.), *Ce que peuvent les pierres. Vie et puissance des matériaux lithiques entre rites et savoirs*, Liège, Presses universitaires de Liège, 2021, p. 31-48.
- FAROUT, Dominique, “La hyène dans les assiettes, un particularisme égyptien?”, *Kentron*, vol. 35, 2019, p. 49-106.
- FAUTH, Wolfgang, *Jao-Jahwe und seine Engel: Jahwe-Appellationen und zugehörige Engelnamen in griechischen und koptischen Zaubertexten*, Tübingen, Mohr Siebeck, 2014.
- FOURNET, Jean-Luc, “Temples in Late Antique Egypt: Cultic Heritage between Ideology, Pragmatism, and Artistic Recycling”, in Paola Buzi (ed.), *Coptic Literature in Context (4th-13th cent.): Cultural Landscape, Literary Production, and Manuscript Archaeology. Proceedings of the Third Conference of the ERC Project “Tracking Papyrus and Parchment Paths: An Archaeological Atlas of Coptic Literature. Literary Texts in their Geographical Context (‘PATHs’)”*, Rome, Edizioni Quasar, 2020, p. 29-50.
- FRANKFURTER, David, “The Magic of Writing and the Writing of Magic: The Power of the Word in Egyptian and Greek Traditions”, *Helios*, vol. 21.2, 1994, p. 189-221.
- , “Ritual Expertise in Roman Egypt and the Problem of the Category ‘Magician’”, in Peter Schäfer and Hans G. Kippenberg (eds.), *Envisioning Magic. A Princeton Seminar and Symposium*, Leiden, Brill, 1997, p. 115-135.
- , *Religion in Roman Egypt: Assimilation and Resistance*, Princeton, Princeton University Press, 1998.

- , “Egyptian Religion and the Problem of the Category ‘Sacrifice’”, in Jennifer W. Knust and Zsuzsanna Várhelyi (ed.), *Ancient Mediterranean Sacrifice*, Oxford, Oxford University Press, 2011, p. 75-93.
- GALOPPIN, Thomas, *Animaux et pouvoir rituel dans les pratiques “magiques” du monde romain*, PhD Thesis supervised by Nicole Belayche, EPHE, Paris, 2015.
- , “Animaux et pouvoir rituel dans les pratiques ‘magiques’ du monde romain”, *Asdiwal*, vol. 11, 2016, p. 187-190.
- , “Faire de la ‘puissance’ dans quelques pratiques ‘magiques’ gréco-égyptiennes du début de notre ère”, in Corinne Bonnet, Nicole Belayche et al. (ed.), *Puissances divines à l’épreuve du comparatisme: constructions, variations et réseaux relationnels*, Turnhout, Brepols, 2017, p. 321-332.
- , “Les *logoi* des pratiques ‘magiques’ dans l’Antiquité tardive. Puissance de la parole et innovations du langage”, in Philippe Hoffmann and Andrei Timotin (ed.), *Théories et pratiques de la prière à la fin de l’Antiquité*, Turnhout, Brepols, 2020, p. 109-141.
- GAMER-WALLERT, Ingrid, *Fische und Fischkulte im alten Ägypten*, Wiesbaden, Otto Harrassowitz, 1970.
- GEORGUDI, Stella, KOCH PIETTRE, Renée and SCHMIDT, Francis (ed.), *La cuisine et l’autel. Les sacrifices en questions dans les sociétés de la Méditerranée ancienne*, Turnhout, Brepols, 2005.
- GLICKMAN, Stephen, “The Spotted Hyena from Aristotle to the Lion King: Reputation is Everything”, *Social Research*, vol. 62.3, 1995, p. 501-537.
- GOODWIN, Charles Wycliffe, *Fragment of a Graeco-Egyptian Work upon Magic*, Cambridge, Deighton, MacMillan & Co., 1852.
- GORDON, Richard, “‘What’s in a List?’ Listing in Greek and Graeco-Roman Malign Magical Texts”, in David R. Jordan, Hugo Montgomery and Einar Thomassen (eds.), *The World of Ancient Magic*, Bergen, Norwegian Institute at Athens, 1999, p. 239-277.
- , “Shaping the Text: Innovation and Authority in Graeco-Egyptian Malign Magic”, in Hermann F. J. Horstmanshoff et al. (ed.), *Kykeon: Studies in Honour of H. S. Versnel*, Leiden, Brill, 2002, p. 69-111.
- , “Magian Lessons in Natural History: Unique Animals in Graeco-Roman Natural Magic”, in Jitse Dijkstra, Justin Kroesen and Yme Kuiper (ed.), *Myths, Martyrs and Modernity: Studies in the History of Religions in Honour of Jan N. Bremmer*, Leiden, Brill, 2010, p. 249-269.
- GRAF, Fritz, “Prayer in Magic and Religious Ritual”, in Christopher A. Faraone and Dirk Obbink (ed.), *Magika Hiera: Ancient Greek Magic and Religion*, New York, Oxford University Press, 1991, p. 188-213.
- , “Caloric Codes: Ancient Greek Animal Sacrifice,” in Julia Kindt (ed.), *Animals in Ancient Greek Religion*, London, Routledge, 2020, p. 171-196.
- GRIFFITHS, J. Gwyn, *Plutarch’s De Iside et Osiride*, Cambridge, University of Wales Press, 1970.

- GUNDEL, Hans Georg, *Weltbild und Astrologie in den griechischen Zauberpapyri*, Munich, C. H. Beck'sche, 1968.
- HARRAUER, Christine, "Abraxas", in Hubert Cancik and Helmuth Schneider (ed.), *Brill's New Pauly*, Brill, New Pauly Online, 2006.
- HARRIS, J. R., *Lexicographical Studies in Ancient Egyptian Minerals*, Berlin, Akademie Verlag, 1961.
- HECKER, H. M., "A Zooarchaeological Inquiry into Pork Consumption in Egypt from Prehistoric to New Kingdom Times", *Journal of the American Research Center in Egypt*, vol. 19, 1982, p. 59-71.
- HOPFNER, Theodor, *Griechisch-ägyptischer Offenbarungszauber*, Amsterdam, Verlag Adolf M. Hakkert, vol. 1.
- HOULIHAN, Patrick F., *The Birds of Ancient Egypt*, Warminster, Aris & Philips Ltd., 1986.
- HÜBNER, Wolfgang, "Zur neuplatonischen Deutung und astrologischen Verwendung der Dodekaoros", in Dieter Harlfinger (ed.), *Philophronema. Festschrift für Martin Sichel zum 75. Geburtstag. Vom Textkritik bis Humanismusforschung*, Paderborn, F. Schöningh, 1990, p. 73-103.
- IKRAM, Salima, *Choice Cuts: Meat Production in Ancient Egypt*, Leuven, Peeters, 1995.
- , "The Iconography of the Hyena in Ancient Egypt", *Mitteilungen des Deutschen Archäologischen Instituts*, vol. 57, 2001, p. 127-140.
- JOHNSTON, Sarah Iles, "Le sacrifice dans les papyrus magiques", in Alain Moreau and Jean-Claude Turpin (ed.), *La Magie. Actes du colloque international de Montpellier, 25-27 mars 1999*, Montpellier, Publications de l'Université Montpellier III, 2000, vol. 2, p. 19-36.
- , "Review of *Religion in Roman Egypt: Assimilation and Resistance*, by David Frankfurter", *Journal of Biblical Literature*, vol. 120.2, 2001, p. 368-370.
- , "Sacrifice in the Greek Magical Papyri", in Paul Mirecki and Marvin Meyer (ed.), *Magic and Ritual in the Ancient World*, Leiden, Brill, 2002, p. 378-86.
- IRVING, Paul M. C. Forbes, *Metamorphosis in Greek Myths*, Oxford, Clarendon Press, 1990.
- KAIMAKIS, Dimitri, *Die Kyraniden*, Meisenheim am Glan, Anton Hain, 1976.
- KEIMER, Ludwig, "Quelques remarques sur la huppe (*Upupa epops*) dans l'Égypte ancienne", *Bulletin de l'Institut français d'archéologie orientale*, vol. 30, 1930, p. 305-331.
- KESSLER, Dieter, *Die heiligen Tiere und der König. Teil I: Beiträge zu Organisation, Kult und Theologie der spätzeitlichen Tierfriedhöfe*, Wiesbaden, Otto Harrassowitz, 1989.
- and NUR EL-DIN, Abd el Halim, "Tuna al-Gebel: Millions of Ibises and Other Animals", in Salima Ikram (ed.), *Divine Creatures: Animal Mummies in Ancient Egypt*, Cairo, American University in Cairo Press, 2005, p. 120-163.

- KINDT, Julia, "Greek Anthropomorphism versus Egyptian Zoomorphism: Conceptual Considerations in Greek Thought and Literature," in Ead (ed.), *Animals in Ancient Greek Religion*, London, Routledge, 2020, p. 126-149.
- KITAGAWA, Chiori, *The Tomb of the Dogs at Asyut. Faunal Remains and Other Selected Objects*, Wiesbaden, Harrassowitz Verlag, 2016.
- KITCHELL Jr., Kenneth F., *Animals in the Ancient World. From A to Z*, London and New York, Routledge, 2014.
- KOENIG, Yvan, "Des 'trigrammes panthéistes' ramessides aux gemmes magiques de l'Antiquité tardive. Le cas d'Abbrasax, continuité et rupture", *Bulletin de l'Institut français d'archéologie orientale*, vol. 109, 2009, p. 311-326.
- KUGENER, Marc-Antoine, *Vie de Sévère par Zacharie* [*Patrologia Orientalis*, vol. 2.3], Paris, Firmin-Didot, 1904.
- LAFORGE, Marie-Odile, *La religion privée à Pompéi*, Naples, Centre Jean Bérard, 2009.
- LATREILLE, Pierre A., "Des insectes peints ou sculptés sur les monumens [*sic*] antiques de l'Égypte", in *Mémoires sur divers sujets de l'histoire naturelle des insectes*, Paris, A. Belin, 1819, p. 145-165.
- LEITZ, Christian (ed.), *Lexikon der ägyptischen Götter und Götterbezeichnungen*, Leuven, Uitgeverij Peeters, 2002-2003, 8 vols.
- LEJBOWICZ, Max, "Béatrice Bakhouche, Frédéric Fauquier et Brigitte Pérez-Jean (ed.), *Picatrix. Un traité de magie médiéval*", *Cahiers de recherches médiévales et humanistes*, 2003, online at [crm.revues.org/244](http://crm.revues.org/244) (uploaded 11 July 2008, last consulted 27 June 2017).
- LIDONNICI, Lynn R., "Beans, Fleawort, and the Blood of a Hamadryas Baboon: Recipe Ingredients in Greco-Roman Magical Materials", in Marvin Meyer and Paul Mirecki (ed.), *Magic and Ritual in the Ancient World*, Leiden, Brill, 2002, p. 359-377.
- , "Compositional Patterns in PGM IV (= P. Bibl. Nat. Suppl. gr. n° 574)", *Bulletin of the American Society of Papyrologists*, vol. 40, 2003, p. 141-178.
- VON LIEVEN, Alexandra, "Religiöse Texte aus der Tempelbibliothek von Tebtynis – Gattungen und Funktionen", in Sandra Lippert and Maren Schentuleit (ed.), *Tebtynis und Soknopaiu Nesos Leben im römerzeitlichen Fajum. Akten des Internationalen Symposions vom 11. bis 13. Dezember 2003 in Sommerhausen bei Würzburg*, Wiesbaden, Harrassowitz Verlag, 2005, p. 57-70.
- , "Translating Gods, Interpreting Gods: On the Mechanisms behind the *Interpretatio Graeca* of Egyptian Gods", in Ian Rutherford (ed.), *Greco-Egyptian Interactions: Literature, Translation, and Culture, 500 BCE-300 CE*, Oxford, Oxford University Press, 2016, p. 61-82.
- , "From Crocodile to Dragon. History and Transformations of the Dodekaoros", in David Brown (ed.), *The Interactions of Ancient Astral Science*, Bremen, Hempen Verlag, 2018, p. 124-137.
- LOVE, Edward O. D., *Code-Switching with the Gods*, Berlin, De Gruyter, 2016.

- LUCARELLI, Rita, “The Donkey in the Graeco-Egyptian Papyri”, in Sabina Crippa and Emanuele M. Ciampini (ed.), *Languages, Objects, and the Transmission of Rituals: An Interdisciplinary Analysis on Ritual Practices in the Graeco-Egyptian Papyri (PGM)*, Venice, Edizioni Ca’ Foscari, 2017, p. 89-104.
- MAJEWSKA, Aleksandra, “Statuette of a Snake-legged Anubis in the National Museum, Warsaw”, *Études et Travaux*, vol. 25, 2012, p. 214-224.
- MALTOMINI, Franco, “Due contraccettivi magici da non usare”, in Leonardo Di Vasto (ed.), *Vincenzo Di Benedetto: il filologo e la fatica della conoscenza*, Castrovillari, Edizioni AICC Castrovillari, 2017, p. 183-188.
- MARTIN, Dale B., *The Corinthian Body*, New Haven, Yale University Press, 1995.
- MARTÍN HERNÁNDEZ, Raquel, “A Coherent Division of a Magical Handbook. Using Lectioal Signs in P. Lond. I 121 (PGM VII)”, *Segno e testo*, vol. 13, 2015, p. 147-164.
- , “More than a *Logos*. The  $\omega\epsilon\rho\beta\eta\theta$  *Logos* in Context”, in Celia Sánchez Natalias (ed.), *Litterae Magicae. Studies in Honour of Roger Tomlin*, Zaragoza, Libros Pórtico, 2019, p. 187-262.
- MARTÍN HERNÁNDEZ and TORALLAS TOVAR, Sofía, “The Use of the Ostrakon in Magical Practice in Late Antique Egypt: Magical Handbooks vs. Material Evidence”, *Studi e materiali di storia delle religioni*, vol. 80, 2014, p. 780-800.
- MASTROCINQUE, Attilio, “Les formations géométriques des mots dans la magie ancienne”, *Kernos*, vol. 21, 2008, p. 97-108.
- , *Kronos, Shiva, and Asklepios: Studies in Magical Gems and Religions of the Roman Empire*, Philadelphia, American Philosophical Society, 2011.
- MERKELBACH, Reinhold and TOTTI, Maria, *Abrasax: Ausgewählte Papyri religiösen und magischen inhalts*, Opladen, Westdeutscher Verlag, 1990, vol. 1.
- MICHEL, Simone, *Die Magischen Gemmen. Zu Bildern und Zauberformeln auf geschnittenen Steinen der Antike und Neuzeit*, Berlin, Akademie Verlag, 2004.
- MONTET, Pierre, “Le Fruit Défendu”, *Kemi*, vol. 11, 1950, p. 85-116.
- MONTERRAT, Dominic, *Sex and Society in Graeco-Roman Egypt*, London, Keegan Paul, 1996.
- NAGY, Árpád, “Figuring out the Anguipede (‘Snake-Legged God’) and his Relation to Judaism”, *Journal of Roman Archaeology*, vol. 15.1, 2002, p. 159-172.
- , “*Daktylios pharmakites*. Magical Healing Gems and Rings in the Graeco-Roman World”, in Ildikó Csepregi and Charles Burnett (ed.), *Ritual Healing. Magic, Ritual and Medical Therapy from Antiquity until the Early Modern Period*, Florence, Sismel, Edizioni del Galluzzo, 2012, p. 71-106.
- , “Engineering Ancient Amulets: Magical Gems of the Roman Imperial Period”, in Dietrich Boschung and Jan N. Bremmer (ed.), *The Materiality of Magic*, Paderborn, Wilhelm Fink, 2015, p. 205-240.
- NAIDEN, Fred S., *Smoke Signals for the Gods. Ancient Greek Sacrifice from the Archaic through Roman Periods*, Oxford, Oxford University Press, 2013.

- NÉMETH, György, “Ereschigal – Ereškigal. Migrations of a Goddess”, *MHNH*, vol. 10, 2010, p. 239-246.
- , “Helioros”, *Sylloge Epigraphica Barcinonensis*, vol. 10, 2012, p. 423-435.
- , “Curses in the Box,” *MHNH*, vol. 13, 2013, p. 201-207.
- NISSAN, Ephraim, “Animals Calling Out to Heaven: In Support of the Hypothesis of an Alexandrine Egyptian Connection to the Animals Praising Heaven in *Perqe Shirah* (A Chapter of Hymns). Some Evidence from Egypt’s Greek Magical Papyri”, *MHNH*, vol. 14, 2014, p. 167-196.
- OGDEN, Daniel, *Drakon: Dragon Myth and Serpent Cult in the Greek and Roman Worlds*, Oxford, Oxford University Press, 2013.
- , “Animal Magic”, in Gordon Lindsay Campbell (ed.), *The Oxford Handbook of Animals in Classical Thought and Life*, Oxford, Oxford University Press, 2014, p. 294-309.
- PARKER, Richard A., *Egyptian Astronomical Texts III: Decans, Planets, Constellations and Zodiacs*, Providence, Brown University Press, 1969.
- PARKER, Robert, *Greek Gods Abroad: Names, Natures and Transformations*, Oakland, University of California Press, 2017.
- PETROVIC, Andrej, “Tieropfer in den griechischen Zauberpapyri aus ästhetischer Sicht”, in Alexander Honold et al., *Ästhetik des Opfers: Zeichen/Handlungen in Ritual und Spiel*, Munich, Wilhelm Fink, 2012, p. 35-62.
- PEUST, Carsten, *Egyptian Phonology: An Introduction to the Phonology of a Dead Language*, Peust & Gutschmidt Verlag GbR, Göttingen, 1999.
- PHILLIPS III, Richard L., *In Pursuit of Invisibility: Ritual Texts from Late Roman Egypt*, Durham, American Society of Papyrologists, 2009.
- PINGREE, David, *Picatrix. The Latin version of the Ghāyat Al-Ḥakīm*, London, Warburg Institute, 1986.
- PRADA, Luigi, “Translating Monkeys Between Demotic and Greek, or Why A Lynx is not Always a Wildcat: (λυκο)λυξ = (wnš-)kwf\*”, *Zeitschrift für Papyrologie und Epigraphik*, vol. 189, 2014, p. 111-114.
- PREISENDANZ, Karl and HENRICHS, Albert, *Papyri Graecae Magicae. Die griechischen Zauberpapyri*, Stuttgart, Teubner, 1973-1974 (2nd edition), 2 vols.
- QUACK, Joachim Friedrich, “The So-called *Pantheos*: On Polymorphic Deities in Late Egyptian Religion”, in Hedvig Györy (ed.), *Aegyptus et Pannonia III. Acta Symposii Anno 2004*, Budapest, Karcagi Nyomda, 2006, p. 175-190.
- , “From Ritual to Magic: Ancient Egyptian Precursors of the *Charitesion* and their Social Setting”, in Gideon Bohak, Yuval Harari and Saul Shaked (ed.), *Continuity and Innovation in the Magical Tradition*, Leiden, Brill, 2011, p. 43-84.
- , “How the Coptic Script Came About”, in Eitan Grossman, Peter Dils, Tonio Sebastian Richter and Wolfgang Schenkel (ed.), *Greek Influence on Egyptian-Coptic: Contact-Induced Change in an Ancient African Language*, Hamburg, Widmaier Verlag, 2017, p. 27-96.

- QUAEGEBEUR, Jan, *Le dieu égyptien Shaï dans la religion et l'onomastique*, Louvain, Leuven University Press, 1975.
- , “Mummy Labels: An Orientation”, in Ernst Boswinkel and Peter Pestman (ed.), *Textes grecs, démotiques et bilingues*, Leiden, Brill, 1978, p. 232-259.
- , “L'autel-à-feu et l'abattoir en Égypte tardive”, in Id. (ed.), *Ritual and Sacrifice in the Ancient Near East, Proceedings of the International Conference organized by the Katholieke Universiteit Leuven from the 17th to the 20th of April 1991*, Louvain, Peeters, 1993, p. 329-353.
- RAY, J. D., *The Archive of Ḥor*, London, Egypt Exploration Society, 1976.
- RÉGEN, Isabelle, “Un animal ‘bien aimé’ des anciens Égyptiens: la hyène rayée”, *Égypte, Afrique & Orient*, vol. 68, 2012, p. 49-58.
- RICHMANN, W., *Tiere in den Zauberpapyri*, doctoral Thesis, Berlin, 1946.
- RITNER, Robert K., “Egyptian Magical Practice under the Roman Empire: The Demotic Spells and their Religious Context”, in Wolfgang Haase (ed.), *Aufstieg und Niedergang der römischen Welt*, vol. 2.18.5, Berlin, Walter de Gruyter & Co., 1995, p. 3333-3379.
- RITTER, Hellmut, *Pseudo-Maḡrīfī. Das Ziel des Weisen*, Leipzig, Teubner, 1933.
- RIVES, James B., “The Theology of Animal Sacrifice in the Ancient Greek World. Origins and developments”, in Jennifer W. Knust and Zsuzsanna Várhelyi (ed.), *Ancient Mediterranean sacrifice*, Oxford, Oxford University Press, 2011, p. 187-202.
- ROSENBLUM, Jordan D., *The Jewish Dietary Laws in the Ancient World*, New York, Cambridge University Press, 2016.
- ROSEVEAR, Donovan R., *The Carnivores of West Africa*, London, Trustees of the British Museum (Natural History), 1974.
- RYHOLT, Kim, *The Story of Petese Son of Petetum and Seventy Other Good and Bad Stories (P. Petese)*, Copenhagen, Museum Tusculanum Press, 1999.
- , “On the Contents and Nature of the Tebtunis Temple Library. A Status Report”, in Sandra Lippert and Maren Schentuleit (ed.), *Tebtynis und Soknopaiu Nesos Leben im römerzeitlichen Fajum. Akten des Internationalen Symposions vom 11. bis 13. Dezember 2003 in Sommerhausen bei Würzburg*, Wiesbaden, Harrassowitz Verlag, 2005, p. 141-163.
- SALAYOVÁ, Andrea, “Animals as Magical Ingredients in Greek Magical Papyri: Preliminary Statistical Analysis of Animal Species”, *Graeco-Latina Brunensia*, vol. 22, 2017, p. 191-206.
- SAUNERON, Serge, “Aspects et sort d'un thème magique égyptien: les menaces incluant les dieux”, *Bulletin de la Société française d'égyptologie*, vol. 8, 1951, p. 11-21.
- SCHWEMER, Daniel, “Beyond Ereškigal? Mesopotamian Magic Traditions in the *Papyri Graecae Magicae*”, in Ljuba Merlina Bortolani, William Furley, Svenja Nagel and Joachim Friedrich Quack (ed.), *Cultural Plurality in Ancient Magical Texts and Practices Graeco-Egyptian Handbooks and Related Traditions*, Tübingen, Mohr Siebeck, 2019, p. 62-85.

- SCULLION, Scott, "Olympian and Chthonian", *Classical Antiquity*, vol. 13.1, 1994, p. 75-119.
- , "Heroic and Chthonian Sacrifice: New Evidence from Selinous", *Zeitschrift für Papyrologie und Epigraphik*, vol. 132, 2000, p. 163-171.
- SHAW, Gregory, *Theurgy and the Soul: The Neoplatonism of Iamblichus*, Pennsylvania, Pennsylvania State University Press, 1995.
- SICHERL, Martin, *Die Tiere in der griechisch-ägyptischen Zauberei, hauptsächlich nach den griechischen Zauberpapiri*, PhD Thesis, Charles University in Prague, 1937.
- SMELIK, Klaas A. D. and HEMELRIJK, Emily A., "'Who Knows Not What Monsters Demented Egypt Worships?' Opinions on Egyptian Animal Worship in Antiquity as Part of the Ancient Conception of Egypt", in Wolfgang Haase (ed.), *Aufstieg und Niedergang der römischen Welt*, vol. 2.17.4, Berlin & New York, Walter de Gruyter, 1984, p. 1852-2000.
- SUAREZ DELLA TORRE, Emilio, "Magical Hermes: Remarks on the recipe of the 'Little Beggar' (PGM IV, 2373-2440)", *MHNH*, vol. 11, 2011, p. 123-144.
- TAIT, William J., "The Transliteration of Demotic", *Enchoria*, vol. 11, 1982, p. 67-76.
- TARDIEU, Michel, "Les noms magiques d'Aphrodite en déesse barbare (PGM IV 2912-2939)", in Id., Anna van den Kerchove and Michela Zago (ed.), *Noms barbares*, vol. I : *Formes et contextes d'une pratique magique*, Turnhout, Brepols, 2013, p. 225-238.
- , VAN DEN KERCHOVE, Anna, and ZAGO, Michela (ed.), *Noms barbares. I : Formes et contextes d'une pratique magique*, Turnhout, Brepols, 2013.
- TE VELDE, Hermann, *Seth: God of Confusion: A Study of his Role in Egyptian Myth and Religion*, G. E. van Baaren-Pape (transl.), Leiden, Brill, 1967.
- THOMPSON, D'Arcy Wentworth, *A Glossary of Greek Fishes*, London, Oxford University Press, 1947.
- , *Glossary of Greek Birds*, London, Oxford University Press, 1895.
- VAN DER HORST, Pieter Willem, *Chaeremon: Egyptian Priest and Stoic Philosopher*, Leiden, Brill, 1984.
- VERMASEREN, Marteen, *Mithriaca*, vol. II: *The Mithreum at Ponza*, Leiden, Brill, 1974.
- VERNUS, Pascal, "Hyène", in Id. and Jean Yoyotte, *Le bestiaire des pharaons*, Paris, Agnès Viénot/Perrin, 2005, p. 146-150.
- VOLOKHINE, Youri, *Le porc en Égypte ancienne. Mythes et histoire à l'origine des interdits alimentaires*, Liège, Presses Universitaires de Liège, 2014.
- VYCICHL, Werner, *Dictionnaire étymologique de la langue copte*, Leuven, Peeters, 1983.
- WAGNER, Aaron P. et al., "Transient Genital Abnormalities in Striped Hyenas (*Hyaena hyaena*)", *Hormones and Behavior*, vol. 51, 2007, p. 626-632.
- WATSON, Lindsay C., "The *echeneis* and Erotic Magic", *Classical Quarterly*, vol. 60, 2010, p. 639-646.

- WATSON, Patricia, “Animals in Magic”, in Lindsay C. Watson (ed.), *Magic in Ancient Greece and Rome*, London, Bloomsbury, 2019, p. 127-165.
- WEINSTOCK, Stefan, “Lunar Mansions and Early Calendars”, *The Journal of Hellenic Studies*, vol. 69, 1949, p. 48-69.
- WELLMANN, Max, *Die Φυσικά des Bolos Demokritos und der Magier Anaxilaos aus Larissa*, Berlin, Akademie der Wissenschaften, 1928.
- WILSON, Anna, “Sexing the Hyena: Intraspecies Readings of the Female Phallus”, *Signs*, vol. 28.3, 2003, p. 755-790.
- YOUTIE, H. C., and BONNER, Campbell, “Two Curse Tablets from Beisan”, *Transactions and Proceedings of the American Philological Association*, vol. 68, 1937, p. 43-77, 128.
- ZOGRAFOU, Athanassia, “Sous le regard de λύχνος: lampes et dieux dans une ‘invocation apollinienne’ (PGM I, 262-347)”, *Mythos n. s.*, vol. 2, 2008, p. 61-76.
- , *Papyrus Magiques Grecs: le mot et le rite. Autour des rites sacrificiels*, Ioannina, Πανεπιστήμιο Ιωαννίνων, 2013.
- , *Des dieux maniables. Hécate et Cronos dans les Papyrus magiques grecs*, Paris, Apolis éditions, 2016.
- ZUCKER, Arnaud, “Raison fausse et fable vraie. Sur le sexe ambigu de la hyène”, *Pallas*, vol. 41, 1994, p. 27-40.